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Status of Atlantic Salmon (*Salmo salar* L.) Stocks of Insular Newfoundland (SFAs 3-14A), 2001

État des stocks de saumon atlantique (*Salmo salar* L.) de l'île de Terre-Neuve (ZPS 3 à 14A) en 2001

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Abstract

The commercial Atlantic salmon fishery moratorium, implemented in insular Newfoundland in 1992, entered its 10th year in 2001. Returns of small salmon to monitored rivers on the northeast and east coasts in 2001 increased over 2000 for Exploits (60%), Campbellton (20%), and Terra Nova (37%) rivers but decreased for Gander River (11%), Middle Brook (26%), and Northwest River, Port Blandford (63%). Returns of small salmon to Exploits and Terra Nova rivers in 2001 were similar to the means for 1992-2000, but the remaining rivers showed declines ranging from 26% (Campbellton River) to 77% (Northwest River, Port Blandford). Returns of large salmon to Exploits River (97%) and Terra Nova River (43%) increased over 2000 but decreased in the range of 13 % (Gander River) to 67% (Middle Brook) for the remainder. In southern Newfoundland, returns of small salmon in 2001 decreased in all monitored rivers compared to 2000, being most pronounced for Little (78%) and Conne (78%) rivers. Declines also occurred in relation to the 1992-2000 means for all rivers (ranging from 27% for Rocky River to 62% for Northeast River, Placentia). Returns of large salmon also decreased in all rivers relative to 2000 (ranging from 33% for Little River to 75% for Northeast River, Placentia) and the 1992-2000 means (13% for Rocky River to 54% for Northeast River, Placentia). In Bay St. George (located in SFA 13), returns of small salmon to Highlands and Robinsons rivers in 2001 increased over 2000 (29 and 26%) but decreased in the range of 18% (Middle Barachois River) to 88% (Fischells River) for the remaining rivers in this area. Returns to Middle Barachois River remained similar to the 1992-2000 mean while Robinsons River improved (60%), but the remaining rivers all declined (range of 19% for Crabbes River to 79% for Fischells River). Except for Crabbes and Highlands rivers, returns of large salmon in 2001 decreased from 2000 (being most pronounced for Fischells River at 84%); returns decreased in relation to the 1992-2000 means for all except Middle Barachois and Robinsons rivers. On the northwest coast, returns of small salmon to Lomond River, Torrent River, and Western Arm Brook in 2001 decreased both from 2000 (37, 36, and 62%, respectively) and the 1992-2000 means (36, 44, and 45%, respectively); declines were also noted for large salmon (13, 25, and 77%, respectively and 13, 7, and 45%, respectively). Sea survival for small salmon in 2001 decreased in Northeast Brook, Trepasssey, Conne River, and Western Arm Brook, remained similar to 2000 for Rocky River and Highlands River, while Campbellton River showed an increase. Smolt production in 2001 increased from 4 to 43% over 2000 for four of the five monitored stocks while Northeast Brook, Trepassey declined by almost 50%. When smolt production increases, returns of small salmon are expected to be higher, unless correspondingly there are decreases in marine survival that offset the increased numbers of smolts.

Résumé

Le moratoire sur la pêche commerciale du saumon atlantique, qui est entré en vigueur à l'île de Terre-Neuve en 1992, commençait sa dixième année en 2001. Sur les côtes nord-est et est de Terre-Neuve, dans les rivières surveillées, les remontes de petits saumons en 2001 par rapport à l'année précédente ont été soit supérieures (rivières Exploits [60 %], Campbellton [20 %] et Terra Nova [37 %]) ou inférieures (rivières Gander [11 %], Middle Brook (26 %) et Northwest, à Port Blandford [63 %]). Les remontes de petits saumons vers les rivières Exploits et Terra Nova en 2001 se rapprochaient de la moyenne de 1992-2000, mais affichaient une baisse dans les autres, allant de 26 % (rivière Campbelton) à 77 % (rivière Northwest, à Port Blandford). Les remontes de gros saumons vers deux rivières ont augmenté par rapport à 2000 (rivières Exploits [97 %] et Terra Nova [43 %]), mais ont diminué dans les autres, de 13 % (rivière Gander) à 67 % (rivière Middle Brook). Sur la côte sud, les remontes de petits saumons ont diminué par rapport à l'année précédente dans toutes les rivières surveillées, la baisse étant la plus marquée dans les rivières Little et Conne (78 %). Des baisses par rapport à la moyenne de 1992-2000 ont aussi été relevées dans toutes les rivières (de 27 % pour la rivière Rocky jusqu'à 62 % pour la rivière Northeast, à Placentia). Les remontes de gros saumons vers toutes les rivières surveillées ont aussi diminué par rapport à 2000 (de 33 % pour la rivière Little jusqu'à 54 % pour la rivière Northeast, à Placentia) et la moyenne de 1992-2000 (de 13 % pour la rivière Rocky jusqu'à 54 % pour la rivière Northeast, à Placentia). Dans les rivières tributaires de la baie St. George (ZPS 13), les remontes de petits saumons vers les rivières Highlands et Robinsons en 2001 ont augmenté par rapport à 2000 (de 29 % et 26 %, respectivement), mais ont diminué dans les autres (de 18 % dans la Middle Barachois jusqu'à 88 % dans la Fischells). Les remontes dans la rivière Middle Barachois se rapprochaient de la moyenne de 1992-2000 et celles dans la rivière Robinsons sont améliorées (60 %), mais elles ont diminué dans les autres rivières (de 19 % pour la Crabbes jusqu'à 79 % pour la Fischells). Sauf pour les rivières Crabbes et Highlands, les remontes de gros saumons en 2001 ont diminué par rapport à 2000 (surtout dans la rivière Fischells, où elles ont chuté de 84 %) et, sauf pour les rivières Middle Barachois et Robinsons, elles ont chuté dans toutes les rivières par rapport à la moyenne de 1992-2000. Sur la côte nord-ouest, les remontes de petits saumons vers les rivières Lomond, Torrent et Western Arm Brook en 2001 ont diminué par rapport à 2000 (37 %, 36 5 et 62 %, respectivement) et la moyenne de 1992-2000 (36 %, 44 % et 45 %, respectivement). Une baisse a aussi été relevée chez les gros saumons (13 %, 25 % et 77 %, respectivement et 13 %, 7 % et 45 %, respectivement). Le taux de survie en mer des petits saumons dénombrés dans les rivières Northeast Brook, à Trepasssey, Conne et Western Arm Brook a diminué en 2001, était semblable à celui de 2000 pour les rivières Rocky et Highlands, et a augmenté pour la rivière Campbellton. Chez quatre des cinq stocks surveillés, la production de saumoneaux en 2001 par rapport à 2000 a augmenté, passant de 4 % à 43 %, tandis que dans la rivière Northeast Brook, à Trepassey, elle a diminué par quelque 50 %. Lorsque la production de saumoneaux augmentera, on prévoit que les remontes de petits saumons seront plus élevées à moins qu'il se produise en même temps une baisse du taux de survie en mer, qui neutralisera l'accroissement du nombre de saumoneaux.

Introduction

This paper presents the general status of Atlantic salmon stocks in Salmon Fishing Areas (SFAs) 3-14A of the Newfoundland Region (Fig. 1) in 2001. Catch and effort data from the recreational fishery and counts at fishways and counting fences are examined in relation to historical data and management measures in effect in 2001.

Management measures, past and present

The moratorium on the commercial Atlantic salmon fishery in insular Newfoundland continued in 2001. The implementation of the moratorium in 1992 was accompanied by a commercial license retirement program and followed a major management plan introduced in 1984 (O'Connell *et al.* 1992a; May 1993; Mullins and Caines MS 1994), elements of which were continued into the quota years of 1990 and 1991 (O'Connell *et al.* MS 1992b) and the moratorium years. These regulations continue a long-standing history of management programs designed to prevent stock declines and to allow populations to rebuild (May 1993).

A quota on the number of small salmon (< 63 cm in fork length) that could be retained in the Atlantic salmon recreational fishery was introduced in each SFA in 1992 and 1993. The quota was assigned for each SFA as a whole as opposed to individual river quotas. Only hook-and-release fishing was permitted after the quota was caught in each SFA. Quotas were eliminated in 1994. The seasonal bag limit for the retention of small salmon was lowered from eight to six fish in 1994, three to be caught prior to July 31 and three after that date. Hook-and-release fishing only was permitted after the bag limit of three was reached in each time period. These measures remained in effect in 1995-1997. Returns of small salmon to many rivers in insular Newfoundland in 1997 were substantially lower than expected (Dempson *et al.* MS 1998; O'Connell *et al.* (MS 1998). As a result of this and uncertainties regarding levels of future returns, the management plan for 1998 was much more conservative than for previous years. The seasonal bag limit for the retention of small salmon in insular Newfoundland was reduced to one, pending the results of an in-season review. As a result of the findings of the in-season review, anglers were allowed to additionally retain three small salmon from July 4 until the end of the angling season. Beginning on July 8, 1998 only the use of barbless hooks was permitted. As in previous years, the retention of large salmon (∃ 63 cm in fork length) was not permitted in insular Newfoundland in 2001.

A three-year management plan was implemented in 1999, a significant component of which was the introduction of a River Classification System for insular Newfoundland, used to develop retention levels based on the health of individual stocks, without jeopardising conservation goals. This was a major departure from previous years when stocks were managed on a more regional or SFA basis. Details of the three-year plan and a description of the River Classification System are provided in Anon. (1999).

Special management measures were in effect for several rivers in 2001 and a number of rivers were closed for the season, details of which are provided in Anon. (2001). More details on openings and closures throughout the season on a river-specific basis, including times when

rivers were closed due to high water temperatures and low water levels, are presented in Table 1.

As was the case for the period 1995-2000, there were fall hook-and-release fisheries (September 8-October 7) in Gander River (SFA 4) and in Humber River (SFA 13) in 2001.

For the five-year period immediately preceding the commercial salmon fishery moratorium, the average number of recreational fishery licenses sold in Newfoundland and Labrador was 24493. Maximum license sales prior to the moratorium were recorded in 1988 (26445). By comparison, sales during the moratorium years were 25718 (1992), 26508 (1993), 22596 (1994), 21489 (1995), 25553 (1996), 21403 (1997), 18490 (1998), 17927 (1999), 17244 (2000), and 17365 (preliminary) in 2001.

Methods

Fishway and counting fence data were added to that presented in O'Connell *et al.* (MS 2001). Recreational fishery data are provided for the period 1994-2001 and were derived from the License Stub Return System. The information for 2001 is preliminary at this stage. Recreational fishing effort was presented as rod days, defined as any day or part of a day on which an angler fishes.

Recreational fishery catch and effort data in 2001 were compared to means for 1994-2000. Counts of salmon at counting facilities in 2001 were compared to two pre-salmon moratorium means (1984-1989 and 1986-1991). The 1984-1989 mean corresponds to years under major management changes in the commercial fishery in the Newfoundland Region (O'Connell *et al.* 1992a). The commercial fishery in each SFA in insular Newfoundland in 1990 and 1991 was under quota control (O'Connell *et al.* MS 1992b). The 1986-1991 mean incorporates the quota years of 1990 and 1991. The mix of management measures in effect during 1984-1989 on the one hand and the imposition of commercial quotas in 1990 and 1991 on the other, should be kept in mind when making evaluations based on the 1986-1991 mean. Counts of adult salmon during the moratorium were compared to the mean for 1992-2000.

Total river returns of small and large salmon (which typically are counts at counting facilities plus angling removals below counting facilities plus an adjustment for hook-and-release mortality), in 2001, were assessed against 2000 and mean returns for the moratorium period 1992-2000. Total river returns values for individual rivers differ slightly from one year to another as angling data in the current year are preliminary. With a few exceptions, references for river-specific methodologies used for the calculation of total river returns of small and large salmon can be found in CSAS (2001) and CSAS (2002). The exceptions pertain to Terra Nova River for the year 2000 and Northeast River, Placentia and Harry's River for 2001. The lower Terra Nova River fishway was not operated in 2000. Total returns were estimated using ratios of returns to the lower fishway to counts at the upper fishway for previous years in a nonparametric bootstrap simulation, similar to the approach used for Gander River in recent years (see O'Connell *et al.* MS 2001). The trap installed in the fishway in Northeast River, Placentia washed out in mid-July 2001. Total counts of small and large salmon were estimated

using the proportions of the runs entering the fishway up to the time of the washout in previous years and the nonparametric bootstrap procedure. For Harry's River, in addition to using data from the counting fence in Pinchgut Brook tributary, estimates of small and large salmon for the entire river incorporated information from a snorkeling survey on the lower river, following the methodology of Porter (1999).

Means and 95% confidence intervals for ratios were calculated according to Cochran (1977).

Results and Discussion

Smolt-to-adult (small salmon) survival

The smolt-to-adult survival (repeat spawners included) of 6.0% for Campbellton River in 2001 (adult year) increased over 2000 and was one of the highest in recent years (Table 2); the highest survival for this river occurred in 1994 (9.0%). A survival of 3.2% was observed for Northeast Brook, Trepassey (SFA 9) in 2001, one of the lowest recorded and considerably below the high of 9.2% observed in 1996. Rocky River (SFA 9) recorded a survival of 3.1%, similar to that of 2000. Survival for Conne River (SFA 11) in 2001 (2.5%) decreased markedly from the 8.1% achieved in 2000 and was the lowest of the time series. The highest survival for Conne River (10.2%) was reached in 1988. For Highlands River (SFA 13), survival in 2001 (0.6%) was identical to that of 2000, the lowest of the time series. Survival for Western Arm Brook (SFA 14A) in 2001 (4.4%) decreased considerably from the second highest of the moratorium years (11.1%) reached in 2000 (the record high of 12.1% occurred in the pre-moratorium year 1979).

Fig. 2 shows graphically the trends in sea survival for the rivers mentioned above. Survival adjusted for marine exploitation (from Dempson *et al.* MS 1998) is also shown for Conne River, Northeast Brook, Trepassey, and Western Arm Brook. During the moratorium years, estimates of sea survival from smolts to adult small salmon are believed to represent natural survival rates. Pre-moratorium adjusted survival rates approaching 15% were achieved in Conne River and Northeast Brook, Trepassey. Ocean survival for both of these stocks fell throughout the late 1980s and early 1990s. Despite major changes to fisheries and corresponding reductions in marine exploitation, sea survival rates for Conne River and Northeast Brook, Trepassey remain low, as highlighted by the adjusted sea survival rates. The same statement holds for Western Arm Brook, if several years prior to 1985 (the earliest year shown in Fig. 2) presented in Table 2 were adjusted for marine exploitation.

Recreational fishery and counts at counting facilities

Recreational catches of small and large salmon for insular Newfoundland (SFAs 3-14A combined) are presented in Appendix 1a. Data for insular Newfoundland were also rolled into four subdivisions, Northern Peninsula East and Eastern (SFAs 3-8), South (SFAs 9-11), Southwest (SFAs 12-13), and Northern Peninsula West (SFA 14A) and are shown in Appendix

1b-e. Data for each individual SFA are shown in Appendix 1f-q. Calculation of catch per unit of effort (CPUE) is in terms of small and large retained and released fish combined.

Entire Insular Newfoundland (SFAs 3-14A)

Recreational fishery

The total catch of small salmon (retained + released fish), retained catch of small salmon, number of large salmon released, effort, and catch per unit of effort (CPUE) in the recreational fishery in all of insular Newfoundland in 2001 collectively were the lowest of the time series (Fig. 3).

Northern Peninsula East and Eastern (SFAs 3-8)

Recreational fishery

The total catch and retained catch of small salmon in 2001 were similar to 2000 but below the 1994-2000 mean (Fig. 4). The number of large salmon released was the lowest recorded, as was effort expenditure. CPUE improved over 2000 but remained well below the mean.

Counting facilities – northeast coast

SFA 3: The counting fence in Northwest Branch tributary of Main River (Sop's Arm) was not operated in 2000 and 2001.

SFA 4: Counts of small (Table 3) and large (Table 4) salmon are available for fishways located in the Exploits River (Bishop's Falls) and Salmon Brook tributary of Gander River and a counting fence in Campbellton River. The counting fence on the main stem of the Gander River did not operate in 2000 and 2001. The count of small salmon for Exploits River in 2001 increased over 2000 and the 1984-1989 and 1986-1991 means and was similar to the 1992-2000 mean. The count of large salmon increased over 2000 and all means (being much less pronounced in the case of the 1992-2000 mean). The count of small salmon in Campbellton River in 2001 increased over 2000 but remained below the 1992-2000 mean while the count of large salmon decreased from both 2000 and the mean. The count of small salmon in Salmon Brook tributary of Gander River in 2001 decreased from 2000 and the means (slightly in the case of the 1984-1989 mean); the count of large salmon increased over 2000 and the 1984-1989 and 1986-1991 means but decreased marginally from the 1992-2000 mean.

Counting facilities – east coast

SFA 5: Counts of small (Table 3) and large (Table 4) salmon are available from fishways in Middle Brook and the lower and upper Terra Nova River and a counting fence in Northwest River, Terra Nova National Park. The counting fence in Indian Bay Brook did not operate in 2000 and 2001. There was no adult enumeration at the lower Terra Nova River fishway in 2000 but counting resumed in 2001. Counts of small and large salmon in Middle

Brook in 2001 decreased from 2000 and the 1992-2000 mean but increased over the 1984-1989 and 1986-1991 means. The count of small salmon at the lower Terra Nova River fishway in 2001 increased over the means (slightly in the case of the 1992-2000 mean); the count of large salmon increased over the 1984-1989 and 1986-1991 means but remained below the 1992-2000 mean. Counts of small and large salmon at the upper Terra Nova River fishway in 2001 increased over 2000 and the means. Counts of small and large salmon for Northwest River in 2001 decreased from 2000 and the 1992-2000 mean and were the lowest on record.

South (SFAs 9-11)

Recreational fishery

The total catch and retained catch of small salmon in 2001 were the lowest of the time series and the number of large salmon released was among the lowest (Fig. 5). Effort expenditure was also the lowest recorded while CPUE, although increasing over 2000, remained below the mean.

Counting facilities

SFA 9: Counts of small (Table 3) and large (Table 4) salmon are available from a counting fence in Northeast Brook, Trepassey and a fishway in Rocky River. Counts of small and large salmon in Northeast Brook, Trepassey in 2001 decreased from 2000 and the means. The count of small salmon in Rocky River in 2001 decreased from 2000 and the 1992-2000 mean but increased over the 1984-1989 mean; the count was similar to the 1986-1991 mean. The count of large salmon decreased from 2000 and the 1992-2000 mean (slightly) but increased over the 1984-1989 and 1986-1991 means.

SFA 10: Counts of small (Table 3) and large (Table 4) salmon are provided by a fishway located in Northeast River, Placentia. The count of small salmon in 2001 decreased from 2000 and the means; the count of large salmon decreased from 2000 and the 1992-2000 mean but increased over the 1984-1989 and 1986-1991 means.

SFA 11: Counts of small (Table 3) and large (Table 4) salmon are available from counting fences in Conne River and Litle River. Counts of both small and large salmon in 2001 for Conne River decreased from 2000 and the means. Counts of small and large salmon in Little River in 2001 decreased from 2000 and the 1992-2000 mean but remained above the means for 1984-1989 and 1986-1991.

Southwest (SFAs 12-13)

Recreational fishery

The total catch of small salmon in 2001 decreased from 2000 and the mean while the number retained was similar to 2000 and the mean (Fig. 6). The number of large salmon released decreased from 2000 and the mean. Effort expenditure in 2001 was similar to 2000 and slightly above the mean. However, CPUE was the lowest of the time series.

Counting facilities

SFA 13: Counts of small (Table 3) and large (Table 4) salmon are available from counting fences in Highlands River and Pinchgut Brook. The counts of both small salmon in 2001 increased over 2000 but decreased from the 1992-2000 mean; the count of large salmon was similar to 2000 and below the mean. Counts of small and large salmon for Pinchgut Brook in 2001 were below 2000 and the 1992-2000 mean. Estimates for Humber River using the mark-recapture method were not available in 2000 and 2001.

Northern Peninsula West (SFA 14A)

Recreational fishery

Both the total catch of small salmon and the number of small salmon retained in 2001 decreased from 2000 and the means, with the latter being the lowest of the time series (Fig. 7). The number of large salmon released decreased from 2000 but remained similar to the mean. Effort in 2001 increased slightly over 2000 but was below the mean. CPUE decreased from 2000 and was one of lowest recorded.

Counting facilities

Counts of small (Table 3) and large (Table 4) salmon are available from fishways located in Lomond River and Torrent River and counting fences in Western Arm Brook and Trout River (operated for the first time in 2001). A partial count was obtained at Trout River. The count of small salmon in Lomond River in 2001 decreased from 2000 and the means (slightly in the case of the 1984-1989 and 1986-1991 means); the count of large salmon decreased somewhat from 2000 and the 1992-2000 mean but increased over the 1984-1989 and 1986-1991 means. The count of small salmon in Torrent River in 2001 decreased from 2000 and the 1992-2000 mean and increased marginally over the 1984-1989 and 1986-1991 means. The count of large salmon decreased from 2000 and the 1992-2000 mean (slightly) but increased over the 1984-1989 and 1986-1991 means. Counts of small and large salmon in Western Arm Brook in 2001 increased over 2000 and the 1992-2000 means but remained well above the means for 1984-1989 and 1986-1991.

Total returns

Total returns of small and large salmon to rivers in insular Newfoundland are presented in Tables 5 and 6. The information contained in Tables 5 and 6 is also presented graphically below. Since the closure of the commercial salmon fishery in 1992, returns of small and large salmon to rivers are assumed to be total population sizes.

Northern Peninsula East and Eastern (SFAs 3-8)

Northeast coast, SFA 4

Total returns of small salmon to the Exploits River in 2001 (Fig. 8) increased over 2000 and were similar to the 1992-2000 mean (Table 7). Returns to Gander River decreased from 2000 and the 1992-2000 mean. Since there was no angling below the counting fence in Campbellton River, total returns (Fig. 8) are the same as the counts, which have been dealt with previously.

Total returns of large salmon to Exploits River in 2001 (Fig. 8) increased over 2000 and the 1992-2000 mean while the reverse was true for Gander River (Table 8). Returns to Campbellton River (Fig. 8) have been dealt with previously.

The proportion of large salmon in total returns to Exploits River in 2001 increased over 2000 and the 1992-2000 mean (Table 9 and Fig. 9). The proportion for Campbellton River on the other hand decreased from 2000 and the mean while for Gander River there was little change.

East coast, SFA 5

Total returns of small salmon to Middle Brook in 2001 (Fig. 10) decreased from 2000 and the 1992-2000 mean (Table 7). Returns to the lower Terra Nova River fishway increased over 2000 and remained similar to the 1992-2000 mean. Total returns to Northwest River (Fig. 10) are equivalent to the count at the counting fence, dealt with previously.

Total returns of large salmon to Middle Brook in 2001 (Fig. 10) decreased from 2000 and the 1992-2000 mean (Table 8). For Terra Nova River, returns increased over 2000 but decreased from the 1992-2000 mean. Returns to Northwest River are equivalent to the count at the counting fence (Fig. 10), dealt with previously.

The proportion of large salmon in total returns (Table 9 and Fig. 11) for Middle Brook in 2001 decreased from 2000 and the 1992-2000 mean. Terra Nova River showed a slight increase over 2000 but decreased from the mean. The proportion for Northwest River was the highest recorded.

South (SFAs 9-11)

SFA 9

Since there was no angling in Northeast Brook, Trepassey and Rocky River, total returns of small and large salmon are equivalent to the counts at the counting facilities and these were dealt with previously. Returns for small and large salmon are shown graphically in Fig. 12.

The proportion of large salmon in total returns to Northeast Brook, Trepassey in 2001 decreased from 2000 and the mean for 1992-2000 (Table 9 and Fig. 13). The proportion for Rocky River decreased from 2000 but increased over the 1992-2000 mean.

SFA 10

Total returns of small and large salmon to Northeast River, Placentia in 2001 (Fig. 12) decreased from 2000 and the 1992-2000 means (Tables 7 and 8). Returns of large salmon in 2000 were the second highest recorded.

The proportion of large salmon in total returns to Northeast River, Placentia in 2001 (Table 9 and Fig. 13) decreased from 2000 but remained slightly above the mean for 1992-2000.

SFA 11

Total returns of small and large salmon to Conne River in 2001 (Fig. 12) decreased from 2000 and the 1992-2000 means (Tables 7 and 8). Returns of small and large salmon to Little River are equivalent to the counts at the counting fence and these were dealt with previously.

The proportions of large salmon in total returns to Conne River and Little River in 2001 increased over 2000 and the 1992-2000 means (Table 9 and Fig. 13).

Southwest (SFAs 12-13)

SFA 13

Returns of small salmon to Crabbes River, Fischells River, Flat Bay Brook, and Harry's River in 2001 (Fig. 14) all decreased from 2000 and the 1992-2000 means (Table 7). Middle Barachois River showed a decrease from 2000 but remained similar to the 1992-2000 mean. Robinsons River improved over 2000 and the mean.

Returns of large salmon to Fischells River and Flat Bay Brook in 2001 (Fig. 14) decreased from 2000 and the 1992-2000 mean (Table 8). Crabbes River improved over 2000 but remained below the mean. Middle Barachois River and Robinsons River showed declines from 2000; the former also decreased from the 1992-2000 mean while the latter remained similar to the mean. Harry's River recorded an increase over 2000 and the mean (slight).

The proportions of large salmon in total returns for Crabbes River, Middle Barachois River, Fischells River, and Harry's River in 2001 increased over 2000 while in Highlands River, Robinsons River, and Flat Bay Brook had decreases (Table 9 and Fig. 15). Compared to the mean for 1992-2000, all but Crabbes River and Robinsons River showed increases.

Northern Peninsula West (SFA 14A)

Total returns of small and large salmon to Lomond River, Torrent River, and Western Arm Brook in 2001 (Fig. 16) decreased from 2000 and the 1992-2000 means (Tables 7 and 8).

The proportions of large salmon in total returns for Lomond River and Torrent River in 2001 increased over 2000 while a decrease was noted for Western Arm Brook (Table 9 and Fig. 17). Compared to the mean for 1992-2000, Western Arm Brook remained similar but the other two rivers showed increases.

Net marks

The incidence of net-marked fish has been determined for a number of rivers throughout insular Newfoundland since 1994. The results for small and large salmon combined are presented below:

River	1994	1995	1996	1997	1998	1999	2000	2001
Gander River[1]	15.9	8.9	12.2	15.9	2.9	5.2	3.9	3.7
Campbellton River	6.2	5.0	4.3	4.3	5.8	4.1	11.4	4.9
Middle Brook				15.8	11.6	4.5	7.7	3.0
Terra Nova River				2.9	1.2	3.1		4.8
Northeast Riv., Plac.							7.5	
Conne River	18.6	7.1	6.2	7.2	3.7	4.0	3.3	8.0
Harry's River			0.6	9.3	1.8	0.1	2.6	
Humber River		1.4	2.6	7.6	4.1	2.4		

[1]Determined at the fishway in Salmon Brook tributary in 2000 and 2001 and at the counting fence in other years

The incidence of marked fish in 2001 decreased substantially from 2000 in Campbellton River. It should be noted that, unlike the other rivers, marks recorded for Campbellton River include all marks (e.g. resulting from encounters with predators, etc.) and not just net marks. Fish were counted with a video system in this river and it is not possible to accurately distinguish the various markings. It was possible to determine the incidence of net marks for the remaining rivers. Gander River remained similar to 2000, Middle Brook showed a decrease, while Terra Nova and Conne rivers recorded increases. Net marks were likely the result of encounters with both legally set gear for other species and illegal gear in the marine environment and with illegal gear in freshwater. It is not possible to estimate the extent of such removals, therefore, total returns considered in the context of being equivalent to total production during the moratorium, have to be regarded as minimum values.

Summary and Conclusions

Returns of small salmon to most monitored rivers in insular Newfoundland in 2001 decreased from 2000 and the 1992-2000 means and in some cases were as low or lower than observed in 1997, a year of unexpected low returns, as mentioned earlier (see Dempson *et al.* MS 1998). Exceptions were Exploits and Terra Nova rivers where runs were average. Returns to northwest coast rivers were substantially below average in 2001 and were among the lowest of the moratorium years. Also for some rivers, 2001 marked the third year out of the past five where returns were below average. In spite of greatly increased spawning escapements beginning with the moratorium in 1992 (Table 10), returns of small salmon to most rivers on the northwest, northeast, and east coasts have not shown a corresponding increase in adult recruitment (which should have started in 1997 and 1998, depending on smolt age-composition), and in fact there is evidence of an overall decline since 1997. Some rivers in southern Newfoundland did not receive the same immediate benefits from the closure of the commercial fishery as evident in northern areas and indeed returns were lower during moratorium years than prior to the moratorium in Northeast Brook, Trepassey and Conne River. In contrast to Northeast Brook, Trepassey and Conne River, returns to Northeast River, Placentia improved somewhat over pre-moratorium levels up to 1998, but since that year, there have been substantial declines. Rocky River and Little River showed an overall improvement in returns during the moratorium but returns in 2001 were among the lowest since 1992. A similar situation exists in Bay St. George, where, with the exception of Highlands and Robinsons rivers, returns of small salmon in 2001 decreased from 2000; only Robinsons River had returns substantially higher than the mean for 1992-2000.

Returns of large salmon during the moratorium period increased over pre-moratorium years for all rivers except Northeast Brook, Trepassey and Conne River. Returns in 2001 decreased from 2000 and the 1992-2000 mean in 16 out of 21 monitored rivers. The proportions of large salmon in total returns in 2001 increased over 2000 in 10 out of 21 rivers while 13 rivers increased relative to the 1992-2000 means.

Virtually all rivers were closed to angling for varying periods throughout the month of August to early September in 2001, due to low water levels and high water temperatures. This most likely affected angling effort and catches to some extent (historically, most angling activity and the bulk of catches occur in June-July). For insular Newfoundland overall (Fig. 3), the catch rate in 2001 was below average, consistent with the observations on total returns presented above. Overall catch rates have been below average since 1999.

Compared to 2000, smolt production in 2001 increased from 4 to 43% in four of five monitored rivers, the exception being Northeast Brook, Trepassey, where a decrease of almost 50% was noted. Prior to 2001, smolt production declined consistently each year from 1997 onwards for these rivers. When smolt production increases, returns of small salmon are expected to be higher, unless correspondingly there are decreases in marine survival that offset increased numbers of smolts.

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Table 1. Opening and closure dates of the Atlantic salmon recreational fishery for each SFA, and variations by river, 2001.

River	Class	Close dates	Reason for closure
SFA 1 June 15 - September 15			
SFA 2 June 15 - September 15			
SFA 3 June 15 - September 7			
Soufletts River	II	August 8 - 27	Low water levels & high water temperatures
Little Harbour Deep River	II	"	"
Coney Arm River	III	"	"
Main River (Sop's Arm)	II	August 3 - 27	"
Hampden River	III	August 8 - 27	"
Wild Cove Brook	II	"	"
Western Arm Brook	II	"	"
Middle Arm Brook	II	"	"
Southern Arm Brook	II	"	"
Baie Verte River	II	"	"
Woodstock Brook	II	"	"
SFA 4 June 15 - September 7			
Burlington River	II	August 8 - 28	Low water levels & high water temperatures
Indian River	II	"	"
West River	II	August 8 - Sept. 7	"
South Brook	II	"	"
Tommy's Arm River	II	"	"
Northwest Arm Brook	II	"	"
Western Arm Brook	II	"	"
Leamington River	II	"	"
Charles Brook	II	"	"
Northern Arm River	II	"	"
Peters River	II	"	"
Exploits River			
Exploits River (**except main stem to Red Indian Lake**)		August 8 -Sept. 7	"
Exploits River (Badger Bay Brook)		August 8 -Sept. 4	"
Campbellton River	II	"	"
Dog Bay River	II	"	"
Gander River	I		
Gander River **(except main stem to Gander Lake)**		August 8 -Sept. 7	"
Gander River **(Northwest tributary)**		August 8 - 28	"
Ragged Harbour River	II	August 8 - 29	"
Anchor Brook	II	"	"
Deadman's Bay River	II	"	"
Windmill Brook	II	"	"
SFA 5 June 15 - September 7			
Northwest Brook (Indian Bay)	II	August 15 - 28	Low water levels & high water temperatures
Indian Bay Brook	II	"	"
Northwest River (Trinity)	II	"	"
Traverse Brook	II	"	"
Middle Brook	II	"	"
Gambo River	II	"	"
Northwest Brook (Alexander Bay)	II	"	"
Terra Nova River	II	"	"
SFA 6 June 15 - September 7			
Salmon Cover River	III	August 15 - 28	Low water levels & high water temperatures
Trouty River	III	"	"
Bellevue River	III	August 9 - 28	"
Popes Harbour River	III	August 15 - 28	"
Shoal Harbour River	III	"	"
Deer Harbur River	III	"	"

Table 1 cont'd

River	Class	Close dates	Reason for closure
SFA 7 June 15 - September 7			
Salmon Cove River (CB)	III	August 9 - 28	Low water levels & high water temperatures
North River	III	"	"
South River	III	"	"
North Arm Holyrood	IV	"	"
SFA 8 June 15 - September 7			
Renews River	III	August 3 - 28	Low water levels & high water temperatures
SFA 9 June 6 - September 7			
Biscay Bay River	II	August 3 - 24	Low water levels & high water temperatures
Northwest Brook (Trepassey)	II	"	"
Salmonier River	II	August 9 - 24	"
Branch River	II	August 3 - 24	"
Peters River	III	"	"
Colinet River	IV	"	"
North Harbour River	III	August 3 - 28	"
Little Salmonier River	II	"	"
Big Barachois River	II	"	"
SFA 10 June 6 - September 7			
Southeast River (Placentia)	III	August 3 - 24	Low water levels & high water temperatures
Northeast River (Placentia)	II	"	"
Pipers Hole River	III	August 9 - 28	"
Come By Chance River	III	"	"
Gt. Barachois River	III	"	"
North Harbour River (PB)	III	"	"
Watsons River	III	"	"
Black River	III	"	"
Cape Roger River	III	August 8 - 28	"
Nonsuch Brook	III	"	"
Bay De L'Eau River	III	"	"
Red Harbour River	III	"	"
West Brook	III	"	"
Tides Brook	III	"	"
Salmonier River (Burin)	III	"	"
Little St. Lawrence River	III	"	"
Lawn River	III	"	"
Taylors Bay River	III	"	"
Salmonier River (Lamaline)	III	"	"
Piercey's Brook	III	"	"
SFA 11 June 6 - September 7			
Grand Bank Brook	III	August 8 - 28	Low water levels & high water temperatures
Long Harbour River	II	"	"
Simmons Brook	III	"	"
Old Bay Brook	III	"	"
Long Reach Brook	III	"	"
Bottom Brook	II	"	"
Garnish River	III	"	"
Bay Du Nord River	III	"	"
Southwest Brook	III	"	"
Taylors Bay Brook	III	"	"
Allens Cove Brook	III	"	"
Dolland Brook	II	"	"
Conne River	III	June 28 - July 3	In- season review
Conne River	III	August 8 - Sept. 7	Low water levels & high water temperatures
Grey River	II	"	"
White Bear River	III	"	"
Bay De Loup River	III	"	"
Kings Harbur River	III	"	"
Grandy's River	III	"	"
Cinq Cerf Brook	III	"	"

Table 1 cont'd

	River	Class	Close dates	Reason for closure
SFA 12	**June 6 - September 7**			
SFA 13	**June 1 - September 7**			
	Little Codroy River	II	August 3 - 30	Low water levels & high water temperatures
	Grand Codroy River	II	"	"
	Crabbes River	IV	August 3 - 27	"
	Barachois River	IV	"	"
	Robinsons River (retention June 24 - July 9)	III	"	"
	Flat Bay Brook (retention June 24 - July 9)	III	"	"
	Little Barachois Brook	III	"	"
	Southwest & Bottom Brook	III	"	"
	Harry's River	IV	August 8 - 20	"
	Fox Island River	II	"	"
	Goose Arm River	II	August 15 - 20	
	Hughes Brook	IV	"	"
	Humber River	I	"	"
	Serpentine River	II	"	"
SFA 14A	**June 15 - September 7**			
	Pinsents Brook	III	August 17 -28	Low water levels & high water temperatures
	Parker River	III	"	"
	Bartletts River	III	"	"
	Upper River	III	"	"
	Eastern Brook	III	"	"
	Lomond River	II	August 15 -20	"
SFA 14B	**June 15 - Sept 15**			

Table 2. Atlantic salmon smolt-to-adult survival (back to the river) for Campbellton River (SFA 4), Northeast Brook, Trepassey, and Rocky River (SFA 9), Conne River (SFA 11), Highlands River (SFA 13), and Western Arm Brook (SFA 14A). Repeat spawners are included in counts. Adjusted smolt counts for Rocky River are bold.

	Campbellton River			Northeast Brook			Rocky River			Conne River[1]			Highlands River			Western Arm Brook		
Year (i)	Smolts year i	Sm. sal. year i + 1	% Surv.	Smolts year i	Sm. sal. year i + 1	% Surv.	Smolts year i	Sm. sal. year i + 1	% Surv.	Smolts year i	Sm. sal. year i + 1	% Surv.	Smolts year i	Sm. sal. year i + 1	% Surv.	Smolts year i	Sm. sal. year i + 1	% Surv.
1971																5735	406	7.1
1972																11905	797	6.7
1973																8484	506	6.0
1974																11854	639	5.4
1975																9600	552	5.8
1976																6232	373	6.0
1977																9899	315	3.2
1978																13071	1578	12.1
1979																8349	465	5.6
1980													15028	127		15665	492	3.1
1981													15839	100		13981	467	3.3
1982																12477	1141	9.1
1983																10552	235	2.2
1984																20653	467	2.3
1985																13417	527	3.9
1986				1117	91	8.1										17719	437	2.5
1987				1404	97	6.9				74585	7627	10.2				17029	422	2.5
1988				1692	62	3.7				65692	4968	7.6				15321	455	3.0
1989				1708	71	4.2				73724	5368	7.3				11407	444	3.9
1990				1902	99	5.2	8287	211	2.5	56943	2411	4.2				10563	233	2.2
1991				1911	49	2.6	7732	237	3.1	74645	2523	3.4				13453	480	3.6
1992				1674	79	4.7	7813	292	3.7	68208	2703	4.0				15405	947	6.1
1993	31577	2857	9.0	1849	99	5.4	***5115***	158	3.1	55765	1533	2.7	9986	145	1.5	13435	954	7.1
1994	41663	3035	7.3	944	80	8.5	9781	385	3.9	60762	3502	5.8	10503	172	1.6	9283	823	8.9
1995	39715	3208	8.1	792	73	9.2	7577	356	4.7	57733 *	4154	7.2	12160	199	1.6	15144	1230	8.1
1996	58369	1975	3.4	1749	50	2.9	***14261***	435	3.1	94088	3200	3.4	12383	398	3.2	14502	509	3.5
1997	62050	3275	5.3	1829	91	5.0	***16900***	423	2.5	100983	2931	2.9	6776	96	1.4	23845	1718	7.2
1998	50441	3076	6.1	1727	95	5.5	***12163***	327	2.7	69841	2358	3.4	5922	146	2.5	17139	1046	6.1
1999	47256	1798	3.8	1419	83	5.8	***8625***	277	3.2	63658	5177	8.1	9634	58	0.6	13500	1492	11.1
2000	35696	2151	6.0	1740	56	3.2	***7616***	233	3.1	60777	1503	2.5	13120	75	0.6	12706	563	4.4
2001	37170			916			***9392***			86898			nc			16013		

[1]Includes Native food fishery.

* 57733 excludes 5016 removed to Roti Bay.

4154 small salmon for Conne River 1996 excludes 286 fish from the wild smolt aquaculture experiment.

Table 3. Counts of small salmon from fishways and counting fences in insular Newfoundland 1974-2001 by Salmon Fishing Area (SFA). Also shown are means, coefficients of variation, 95% confidence limits (LCL and UCL), and percentage change for 2001 in relation to 2000, and the 1984-1989, 1986-1991, and 1992-2000 means. Partial counts are in parentheses and are not included in statistical calculations. Adusted counts are bold.

	SFA 3	SFA 4			SFA 5				SFA 9		SFA 10	SFA 11		SFA 13			SFA 14A			
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1974		2538		857			(770)		162				223							41	38	382
1975		9218					(1119)		778				(186)							1	191	631
1976		3991							335				294							132	341	520
1977		6148							371											192	789	362
1978		3790		755			1403	810	436				390							117	971	293
1979		6715		(404)			(1350)	569	455				454							195	1984	1578
1980				997			1712	843	420				433			82				301	792	435
1981		(8114)		2459			2414	1115	619				334			127				110	2101	451
1982		(7605)		1425			1281	963	625				86			100				275	2112	394
1983				978			1195	1210	853				233							220	2007	1141
1984		17219		1081			1379	1233	904		89		419							440	1805	120
1985		16652		1663			904	1557	960		124		384							190	1553	**416**
1986		9697		1064			1036	1051	726		158		725		7515					354	2815	**525**
1987		9014		493			914	974	570		91	80	325	64	9687					355	2505	378
1988		8974		1562			772	1737	795		97	313	543	65	7118					437	2075	**251**
1989		7192		596	7743		496	1138	668		62	168	706	102	4469						1369	**455**
1990		6629		**345**	7520		745	1149	(410)		71	401	551	158	4321			12216			2296	**444**
1991		5245		245	6445		562	873	(311)		99	211	353	55	2086			5724			1441	233
1992		12538		1168	**18179**		1182	1443	886		49	237	921	104	1973		222	17571		435	2347	480
1993		21319	4001	1580	25905		1959	(2713)	962		79	292	847	169	2355	137	576	18477		526	4009	947
1994		16168	2857	968	18080		1513	1571	1179		99	158	677	73	1533	145	562	7995		701	3592	954
1995		15691	3035	1600	22002		1139	2258	1298	442	80	385	663	118	3498	172	753	27898		1003	5800	823
1996	579	29726	3208	946	23665		1751	2005	1285	593	73	356	1225	674	4436	199	601	30445		601	6923	1230
1997	(338)	13552	1975	465	10476	1375	1221	1577	979	(408)	50	435	641	399	2678	398	613	14866		783	3659	509
1998	(351)	26333	3275	1295	18742	2636	2405	1780	1332	540	91	423	756	264	2931	96	593	13016		542	4999	1718
1999	(432)	28252	3076	1105	18461	2219	1802	1836	1198	314	95	327	336	307	2357	146	608	27585		829	4008	1046
2000	-	11817	1798	742	-	-	1660	-	833	272	83	277	520	564	4708	58	441	-		658	3763	1486
2001	-	18978	2151	663	-	-	1188	2151	1512	102	56	233	**265**	125	1359	75	200	-	(38)	333	2216	559
$\bar{X}$ 1984-1989		11458		1077			917	1282	771		104	187	517	77	7197					355	2020	358
CV		38		45			32	24	19		32	83	33	28	30					29	28	41
95% UCL		16000		1580			1223	1598	924		136	479	695	131	10603					481	2606	513
95% LCL		6916		573			610	965	617		69	-105	339	23	3791					229	1434	202
N		6		6			6	6	6		6	3	6	3	4					5	6	6
$\bar{X}$ 1986-1991		7792		718	7236		754	1154	690		96	235	534	89	5866					382	2084	381
CV		22		70	10		27	26	14		35	53	32	48	47					12	28	31
95% UCL		9593		1244	8960		969	1473	841		132	390	711	142	8741					500	2692	504
95% LCL		5991		191	5512		540	835	538		61	79	358	36	2991					264	1475	258
N		6		6	3		6	6	4		6	5	6	5	6					3	6	6
$\bar{X}$ 1992-2000		19488	2903	1094	17279		1626	1898	1106	432	78	321	732	297	2941	169	552	19732		675	4344	1021
CV		36	25	34	45		26	22	17	32	23	28	35	72	37	61	27	41		26	31	40
95% UCL		24921	3500	1376	23278		1945	2250	1253	605	91	390	926	460	3772	254	665	26480		810	5389	1337
95% LCL		14056	2306	812	11280		1307	1546	959	260	64	252	538	134	2110	83	439	12984		540	3299	706
N		9	8	9	9		9	8	9	5	9	9	9	9	9	8	9	8		9	9	9
% change 2001 vs.																						
2000		61	20	-11			-28		82	-63	-33	-16	-49	-78	-71	29	-55			-49	-41	-62
1984-1989 mean		66		-38			30	68	96		-46	25	-49	62	-81					-6	10	56
1986-1991 mean		144		-8			58	86	119		-42	-1	-50	41	-77					-13	6	47
1992-2000 mean		-3	-26	-39			-27	13	37	-76	-28	-27	-64	-58	-54	-56	-64			-51	-49	-45

1. Main River (Sop's Arm)
2. Exploits River (Bishop's Falls)
3. Campbellton River
4. Salmon Brook (Gander River)
5. Gander River
6. Indian Bay Brook
7. Middle Brook
8. Terra Nova River (Lower)
9. Terra Nova River (Upper)
10. Northwest River, Port Blandford
11. Northeast Brook, Trepassey
12. Rocky River
13. Northeast River, Placentia
14. Little River
15. Conne River
16. Highlands River
17. Pinchgut Brook
18. Humber River
19. Trout River
20. Lomond River
21. Torrent River
22. Western Arm Brook

Table 4. Counts of large salmon from fishways and counting fences in insular Newfoundland 1974-2001 by Salmon Fishing Area (SFA). Also shown are means, coefficients of variation, 95% confidence limits (LCL and UCL), and percentage change for 2001 in relation to 2000, and the 1984-1889, 1986-1991, and 1992-2000 means. Partial counts are in parentheses and are not included in statistical calculations. Adusted counts are bold.

	SFA 3	SFA 4				SFA 5					SFA 9		SFA 10	SFA 11		SFA 13			SFA 14A			
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1974		411		9			(77)		121				9							33	3	4
1975		1439					(9)		52				(36)							0	25	1
1976		460							37				56							11	47	0
1977		581							262											11	33	3
1978		303		52			16	20	89				32							12	21	1
1979		277		(6)			(54)	170	30				37							1	39	0
1980				15			91	39	17				34			55				19	63	3
1981		(1695)		33			39	90	28				62			29				50	97	1
1982		(181)		18			20	19	8				36			56				16	523	3
1983				12			75	57	76				22							7	442	4
1984		529		38			57	107	98		33		44							47	288	0
1985		183		26			27	112	60		41		0							14	30	1
1986		355		12			15	140	58		30		39		397					32	92	0
1987		310		9			19	56	38		30	1	16	3	498					11	68	1
1988		147		24			14	206	45		19	6	11	3	418					21	44	1
1989		89		24	473		19	142	51		18	9	15	5	319						60	0
1990		122		8	508		13	144	(34)		9	17	25	15	361			855			82	0
1991		99		2	670		14	114	(26)		13	16	8	6	87			401			71	1
1992		314		101	4162		43	270	224		10	46	46	21	154		5	2945		80	169	8
1993		627	145	87	1734		87	(470)	173		17	72	65	11	98	78	43	636		34	222	8
1994		916	191	83	1072		90	242	172		15	19	70	11	100	148	47	1030		50	331	31
1995		941	218	125	1121		168	634	260	135	12	39	74	17	107	120	28	2064		95	611	33
1996	49	2053	560	112	1753		161	464	185	203	15	45	123	127	179	142	38	2879		93	507	50
1997	(65)	886	321	119	1883	352	262	527	173	(115)	9	89	185	79	182	157	66	2595		72	666	55
1998	(31)	1953	402	141	3649	338	196	390	143	104	11	130	287	49	294	117	63	4865		126	757	128
1999	(34)	2235	493	138	4815	365	130	343	76	93	18	77	167	49	241	82	63	4433		113	399	22
2000	-	683	208	61	-	-	189	-	90	106	14	104	258	52	216	67	15	-		81	587	120
2001	-	1346	119	93	-	-	62	330	181	50	8	60	65	35	140	65	3	-	(15)	72	437	28
$\bar{X}$ 1984-1989		269		22			25	127	58		29	5	21	4	408					25	97	1
CV		60		47			65	39	36		31	76	82	31	18					59	99	110
95% UCL		439		33			42	179	80		36	15	39	7	525					43	198	1
95% LCL		99		11			8	75	36		19	-5	3	1	291					7	-4	-0
N		6		6			6	6	6		6	3	6	3	4					5	6	6
$\bar{X}$ 1986-1991		187		13	550		16	134	48		20	10	19	6	347					21	70	1
CV		62		68	19		17	36	18		44	69	60	78	41					49	24	110
95% UCL		308		23	811		18	185	62		29	16	31	13	494					47	87	1
95% LCL		66		4	289		13	83	34		11	1	7	0	199					-5	52	-0
N		6		6	3		6	6	4		6	5	6	5	6					3	6	6
$\bar{X}$ 1992-2000		1179	317	107	2243		147	418	166	128	13	69	142	46	175	114	41	2656		83	472	51
CV		60	48	25	71		46	32	35	35	23	51	62	82	39	30	54	55		35	43	88
95% UCL		1721	445	128	3476		199	528	211	184	16	96	209	76	227	143	56	3888		105	629	85
95% LCL		636	189	87	1011		96	307	121	73	11	42	74	17	122	85	24	1424		61	315	16
N		9	8	9	9		9	8	9	5	9	9	9	9	9	8	9	8		9	9	9
% change 2001 vs.																						
2000		97	-43	52			-67		101	-53	-43	-42	-75	-33	-35	-3	-80			-11	-26	-77
1984-1989 mean		401		320			146	160	210		-72	1025	212	855	-66					188	351	5500
1986-1991 mean		620		606			296	147	277		-60	512	242	447	-60					238	529	5500
1992-2000 mean		14	-62	-13			-56	-21	9	-61	-40	-13	-54	-24	-20	-43	-93			-13	-7	-45

1. Main River (Sop's Arm)
2. Exploits River (Bishop's Falls)
3. Campbellton River
4. Salmon Brook (Gander River)
5. Gander River
6. Indian Bay Brook
7. Middle Brook
8. Terra Nova River (Lower)
9. Terra Nova River (Upper)
10. Northwest River, Port Blandford
11. Northeast Brook, Trepassey
12. Rocky River
13. Northeast River, Placentia
14. Little River
15. Conne River
16. Highlands River
17. Pinchgut Brook
18. Humber River
19. Trout River
20. Lomond River
21. Torrent River
22. Western Arm Brook

Table 5. Total returns of small salmon to rivers in insular Newfoundland 1984-2001 by Salmon Fishing Area (SFA). Also shown are means and standard deviations for 1984-1989, 1986-1991, and 1992-2000.

	SFA 4			SFA 5			SFA 9		SFA 10	SFA 11		SFA 13							SFA 14A		
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1984	19028			1675	1534		89		459										986	1805	235
1985	17555			1283	2012		124		519										393	1623	467
1986	10343			1547	1459		158		879		8302								725	3155	527
1987	9481			1053	1404		91	80	350	64	10155								652	2670	437
1988	9496			1337	2114		97	313	637	65	7627								841	2388	422
1989	7577		7743	626	1377		62	168	809	102	4968								652	1512	455
1990	6995		7740	1070	1518		71	401	699	158	5368								777	2518	444
1991	5659		6745	763	1127		99	211	368	55	2411								731	1591	233
1992	13508		18179	1563	1780		49	237	956	104	2523							832	794	2832	480
1993	22253	4001	26205	2247	3050		79	292	980	169	2703	137						1663	816	4215	947
1994	17603	2857	18273	1844	2035		99	158	710	73	1533	145						1494	1038	3827	954
1995	16226	3035	22266	1448	2638	498	80	385	774	118	3502	172						1982	1365	6168	823
1996	30425	3208	23946	2112	2575	593	73	356	1420	674	4440	199	866	825	866		1233	1974	982	7371	1230
1997	15263	1975	10599	1287	1800	465	50	435	723	399	3200	398	1152	1060	1077	797	1307	1718	1300	4033	509
1998	27093	3275	18805	2549	1815	540	91	423	885	264	2931	96	491			215		1625	766	5329	1718
1999	28802	3076	18491	1950	1892	314	95	327	363	307	2358	146	712	563	1431	1264	2263	1672	1179	4545	1046
2000	12291	1798	14074	1746	1629	272	83	277	613	564	5177	58	1031	1145	1560	1834	2321	1264	1047	4135	1492
2001	19665	2151	12517	1285	2230	102	56	233	313	125	1503	75	687	934	1972	214	1134	1007	660	2633	563
$\bar{X}$ 1984-1989	12247			1254	1650		104	187	609	77	7763								708	2192	424
SD	4792			376	326		33	118	206	22	2148								200	653	99
$\bar{X}$ 1986-1991	8259		7409	1066	1500		96	235	624	89	6472								730	2306	420
SD	1799		575	344	329		34	125	222	43	2765								73	640	99
$\bar{X}$ 1992-2000	20385	2903	18982	1861	2135	447	78	321	825	297	3152	169	850	898	1234	1028	1781	1580	1032	4717	1022
SD	6930	714	4788	402	494	127	18	90	292	212	1106	102	261	261	319	688	591	357	218	1367	412

1. Exploits River (Bishop's Falls)
2. Campbellton River
3. Gander River
4. Middle Brook
5. Terra Nova River (Lower)
6. Northwest River, Port Blandford
7. Northeast Brook, Trepassey
8. Rocky River
9. Northeast River, Placentia
10. Little River
11. Conne River
12. Highlands River
13. Crabbes River
14. M. Barachois River
15. Robinsons River
16. Fischells River
17. Flat Bay Brook
18. Harry's River
19. Lomond River
20. Torrent River
21. Western Arm Brook

Table 6. Total returns of large salmon to rivers in insular Newfoundland 1984-2001 by Salmon Fishing Area (SFA). Also shown are means and standard deviations for 1984-1989, 1986-1991, and 1992-2000.

	SFA 4			SFA 5			SFA 9		SFA 10	SFA 11		SFA 13							SFA 14A		
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1984	529			57	107		33		44										75	288	0
1985	183			27	112		41		0										14	30	1
1986	355			15	140		30		39		412								37	93	0
1987	310			19	56		30	1	16	3	516								12	68	1
1988	147			14	206		19	6	11	3	420								24	44	1
1989	89		473	19	142		18	9	15	5	320								22	60	0
1990	122		508	13	144		9	17	25	15	372								19	82	0
1991	99		670	14	114		13	16	8	6	89								21	71	1
1992	314		4162	43	270		10	46	46	21	159							15	86	170	8
1993	627	145	1734	88	472		17	72	65	11	100	78						104	38	224	8
1994	917	191	1072	90	246		15	19	70	11	100	148						116	56	332	31
1995	945	218	1121	168	638	135	12	39	74	17	110	120						72	101	615	33
1996	2057	560	1753	161	472	203	15	45	123	127	179	142	249	40	137		132	137	98	509	50
1997	881	321	1883	262	528	183	9	89	185	79	185	157	358	190	190	86	173	198	77	674	55
1998	1959	402	3649	196	390	104	11	130	287	49	295	117	240			72		187	128	766	128
1999	2236	493	4822	130	344	93	18	77	167	49	241	82	264	62	204	246	235	176	123	416	22
2000	684	208	1942	190	232	106	14	104	258	52	216	67	156	156	329	277	471	48	89	595	120
2001	1347	119	1682	62	331	50	8	60	65	35	140	65	180	141	223	44	199	130	77	445	28
$\bar{X}$ 1984-1989	269			25	127		29	5	21	4	417								31	97	1
SD	162			16	50		9	4	17	1	80								23	96	1
$\bar{X}$ 1986-1991	187		550	16	134		20	10	19	6	355								23	70	1
SD	115		105	3	49		9	7	11	5	145								8	17	1
$\bar{X}$ 1992-2000	1180	317	2460	148	399	137	13	69	142	46	176	114	253	112	215	170	253	117	88	478	51
SD	708	153	1380	67	139	46	3	35	88	38	67	35	72	72	81	106	152	64	29	206	45

1. Exploits River (Bishop's Falls)
2. Campbellton River
3. Gander River
4. Middle Brook
5. Terra Nova River (Lower)
6. Northwest River, Port Blandford
7. Northeast Brook, Trepassey
8. Rocky River
9. Northeast River, Placentia
10. Little River
11. Conne River
12. Highlands River
13. Crabbes River
14. M. Barachois River
15. Robinsons River
16. Fischells River
17. Flat Bay Brook
18. Harry's River
19. Lomond River
20. Torrent River
21. Western Arm Brook

Table 7. Percentage change in total returns of small salmon in 2001 in relation to 2000, the 1984-1989, 1986-1991 and 1992-2000 means.

Counting Facility	Total Returns Small Salmon 2001*	Percent Change from 2000	1984-1989 mean	1986-1991 mean	1992-2000 mean
SFA 4					
Exploits River	19665	60	61	138	-4
Campbellton River	2151	20			-26
Gander River	12517	-11		69	-34
SFA 5					
Middle Brook	1285	-26	3	21	-31
Terra Nova River (Lower)	2230	37	35	49	4
Northwest River (TNNP)	102	-63			-77
SFA 9					
Northeast Bk. (Trep.)	56	-33	-46	-42	-28
Rocky River	233	-16		-1	-27
SFA 10					
Northeast River (Plac.)	313	-49	-49	-50	-62
SFA 11					
Little River	125	-78	62	41	-58
Conne River	1503	-71		-77	-52
SFA 13					
Highlands River	75	29			-56
Crabbes River	687	-33			-19
M. Barachois River	934	-18			4
Robinsons River	1972	26			60
Fischells River	214	-88			-79
Flat Bay Brook	1134	-51			-36
Harry's River	1007	-20			-36
SFA 14A					
Lomond River	660	-37	-7	-10	-36
Torrent River	2633	-36	20	14	-44
Western Arm Brook	563	-62	33	34	-45

*preliminary

Table 8. Percentage change in total returns of large salmon in 2001 in relation to 2000, the 1984-1989, 1986-1991 and 1992-2000 means.

Counting Facility	Total Returns Large Salmon 2001*	Percent Change from			
		2000	1984-1989 mean	1986-1991 mean	1992-2000 mean
SFA 4					
Exploits River	1347	97	401	620	14
Campbellton River	119	-43			-62
Gander River	1682	-13		206	-32
SFA 5					
Middle Brook	62	-67	146	296	-58
Terra Nova River (Lower)	331	43	160	148	-17
Northwest River (TNNP)	50	-53			-64
SFA 9					
Northeast Bk. (Trep.)	8	-43	-72	-60	-40
Rocky River	60	-42		512	-13
SFA 10					
Northeast River (Plac.)	65	-75	212	242	-54
SFA 11					
Little River	35	-33	855	447	-24
Conne River	140	-35		-61	-21
SFA 13					
Highlands River	65	-3			-43
Crabbes River	180	15			-29
M. Barachois River	141	-10			26
Robinsons River	223	-32			4
Fischells River	44	-84			-74
Flat Bay Brook	199	-58			-21
Harry's River	130	171			11
SFA 14A					
Lomond River	77	-13	151	242	-13
Torrent River	445	-25	358	539	-7
Western Arm Brook	28	-77	4100	5500	-45

*preliminary

Table 9. Proportions of large salmon in total returns to rivers in insular Newfoundland during 1992-2001 and mean proportions for 1984-1989, 1986-1991, and 1992-2000.

	Proportion of large salmon												
River Name	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	1984-1989 mean	1986-1991 mean	1992-2000 mean
SFA 4													
Exploits River (Bishop's Falls)	0.023	0.027	0.049	0.055	0.063	0.055	0.067	0.072	0.053	0.064	0.021	0.022	0.056
Campbellton River	-	0.035	0.063	0.067	0.149	0.140	0.109	0.138	0.104	0.052	-	-	0.095
Gander River	0.186	0.062	0.055	0.048	0.068	0.151	0.163	0.207	0.121	0.118	-	0.069	0.115
SFA 5													
Middle Brook	0.027	0.038	0.047	0.104	0.071	0.169	0.071	0.063	0.098	0.046	0.020	0.014	0.072
Terra Nova River (Lower)	0.132	0.134	0.108	0.195	0.155	0.227	0.177	0.154	0.125	0.129	0.072	0.082	0.155
Northwest River (Port Blandford)	-	-	-	0.213	0.255	0.282	0.161	0.229	0.280	0.329	-	-	0.239
SFA 9													
Northeast Brook (Trepassey)	0.169	0.177	0.132	0.130	0.170	0.153	0.108	0.159	0.144	0.125	0.216	0.171	0.146
Rocky River	0.163	0.198	0.107	0.092	0.112	0.170	0.235	0.191	0.273	0.205	0.028	0.040	0.179
SFA 10													
Northeast River (Placentia)	0.046	0.062	0.090	0.087	0.080	0.204	0.245	0.315	0.296	0.172	0.033	0.030	0.148
SFA 11													
Little River	0.168	0.061	0.131	0.126	0.159	0.165	0.157	0.138	0.084	0.219	0.045	0.067	0.139
Conne River	0.059	0.036	0.061	0.030	0.039	0.055	0.091	0.093	0.040	0.085	0.051	0.052	0.055
SFA 13													
Highlands River	-	0.363	0.505	0.411	0.416	0.283	0.549	0.360	0.536	0.464	-	-	0.406
Crabbes River	-	-	-	-	0.223	0.237	0.328	0.270	0.131	0.208	-	-	0.227
M. Barachois River	-	-	-	-	0.046	0.152	-	0.099	0.120	0.131	-	-	0.115
Robinsons River	-	-	-	-	0.137	0.150	-	0.125	0.174	0.102	-	-	0.136
Fischells River	-	-	-	-	-	0.097	0.251	0.163	0.131	0.171	-	-	0.144
Flat Bay Brook	-	-	-	-	0.097	0.117	-	0.094	0.169	0.149	-	-	0.128
Harry's River	0.018	0.059	0.072	0.035	0.065	0.103	0.103	0.095	0.037	0.114	-	-	0.072
SFA 14A													
Lomond River	0.098	0.044	0.051	0.069	0.091	0.056	0.143	0.094	0.078	0.104	0.042	0.030	0.081
Torrent River	0.057	0.050	0.080	0.091	0.065	0.143	0.126	0.084	0.126	0.145	0.042	0.029	0.095
Western Arm Brook	0.016	0.008	0.031	0.039	0.039	0.098	0.069	0.021	0.074	0.047	0.002	0.001	0.047

Table 10. Newfoundland Region summary of the conservation egg requirement attained for various rivers for years prior to the commercial salmon fishing moratorium (1984-1991) and the ten years during the moratorium (1992-2001). Also shown are the means for 1984-1991 and 1992-2001.

SFA	River	Percentage conservation level met																		% Conservation met 1984-1991	% Conservation met 1992-2001
		1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		
4	Exploits River	39	37	32	33	37	36	26	16	31	43	31	39	69	24	49	47	22	34	32.0	38.9
	Lower	123	100	66	62	59	46	45	34	101	157	103	121	210	72	146	134	64	98	66.9	120.6
	Middle	20	17	8	9	12	14	12	16	20	23	18	24	43	15	35	35	16	27	13.5	25.6
	Upper	29	53	72	97	125	119	88	0	2	6	7	12	26	10	6	7	2	5	72.9	8.3
	Campbellton River										311	239	277	329	187	311	326	153	148	-	253.4
	Gander River						44	38	36	118	128	91	95	124	62	110	119	86	81	39.3	101.4
5	Indian Bay Brook														113	183	161			-	152.3
	Middle Brook	131	84	89	90	55	49	74	51	148	238	174	114	250	198	301	222	218	139	77.9	200.0
	Terra Nova River	18	23	17	14	28	19	19	15	28	53	26	45	36	32	32	33	27	36	19.1	34.8
	Northwest Brook (TNNP)												37	55	46	42	28	27	11	-	35.1
9	Biscay Bay River	156	126	230	119	117	87	122	38	141	97	143	77	117						124.4	115.0
	Northeast Brook (Trepassey)	229	312	368	227	213	173	156	249	126	193	239	194	196	135	256	248	216	143	240.9	194.6
	Rocky River	64	29	59	22	30	17	40	22	28	34	25	56	34	56	54	39	34	33	35.4	39.3
10	Northeast River (Placentia)	204	152	352	166	247	302	269	175	555	527	434	422	736	486	484	260	449	168	233.4	452.1
11	Conne River - Conservation			262	394	285	185	201	93	87	110	72	147	204	125	150	122	210	67	236.7	129.4
	Management			146	219	159	103	112	51	48	61	40	82	114	70	84	68	117	37	131.7	72.1
13	Highlands River										46	77	67	79	105	59	49	34	35	-	61.2
	Crabbes River									34	13	41		68	95	53	66	63	53	-	54.0
	Middle Barachois Brook									53	48	74		52	95		43	95	80	-	67.5
	Robinsons River									57	23	65		67	91		118	135	142	-	87.3
	Fischells River									14	24	71			44	23	110	142	19	-	55.9
	Flat Bay Brook									18	14	19	45	85	89		149	167	71	-	73.0
	Harry's River									12	37	46	48	52	50	49	49	29	33	-	40.5
	Pinchgut Brook									36	117	145	150	130	140	136	136	82	36	-	111.0
	Humber River							60	27	117	96	40	128	188	115	120	201			43.5	125.4
14A	Trout River																		25	-	-
	Lomond River	74	31	59	56	70	61	62	64	121	118	142	187	143	161	151	181	140	88	59.6	143.2
	Torrent River	270	161	360	199	266	225	221	178	313	538	530	1033	1279	797	924	680	657	400	235.0	715.1
	Western Arm Brook	30	80	156	103	67	142	157	68	151	288	292	286	415	200	625	370	567	193	100.4	338.7

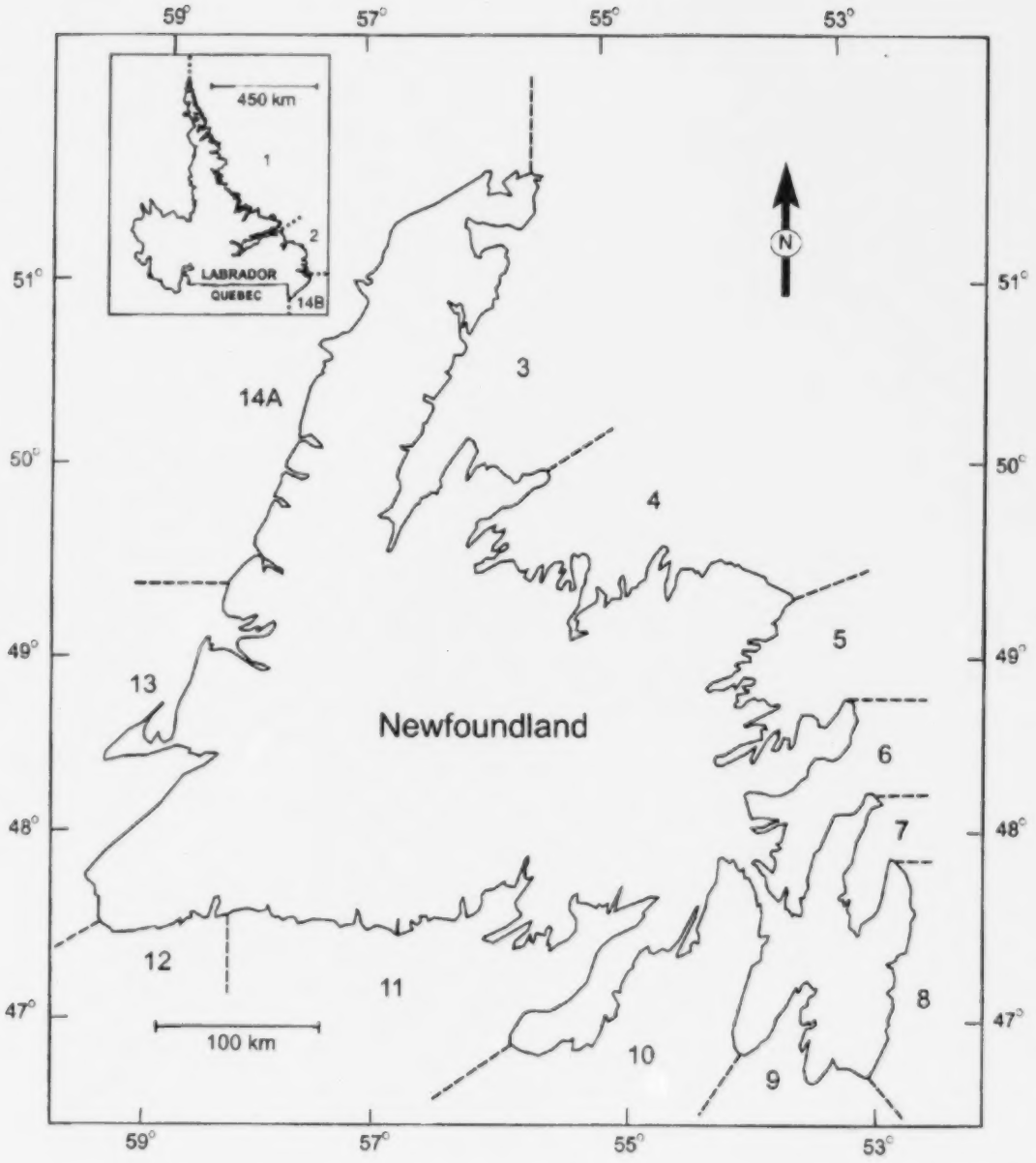

Fig. 1. Map showing the 14 Salmon Fishing Areas of the Newfoundland Region.

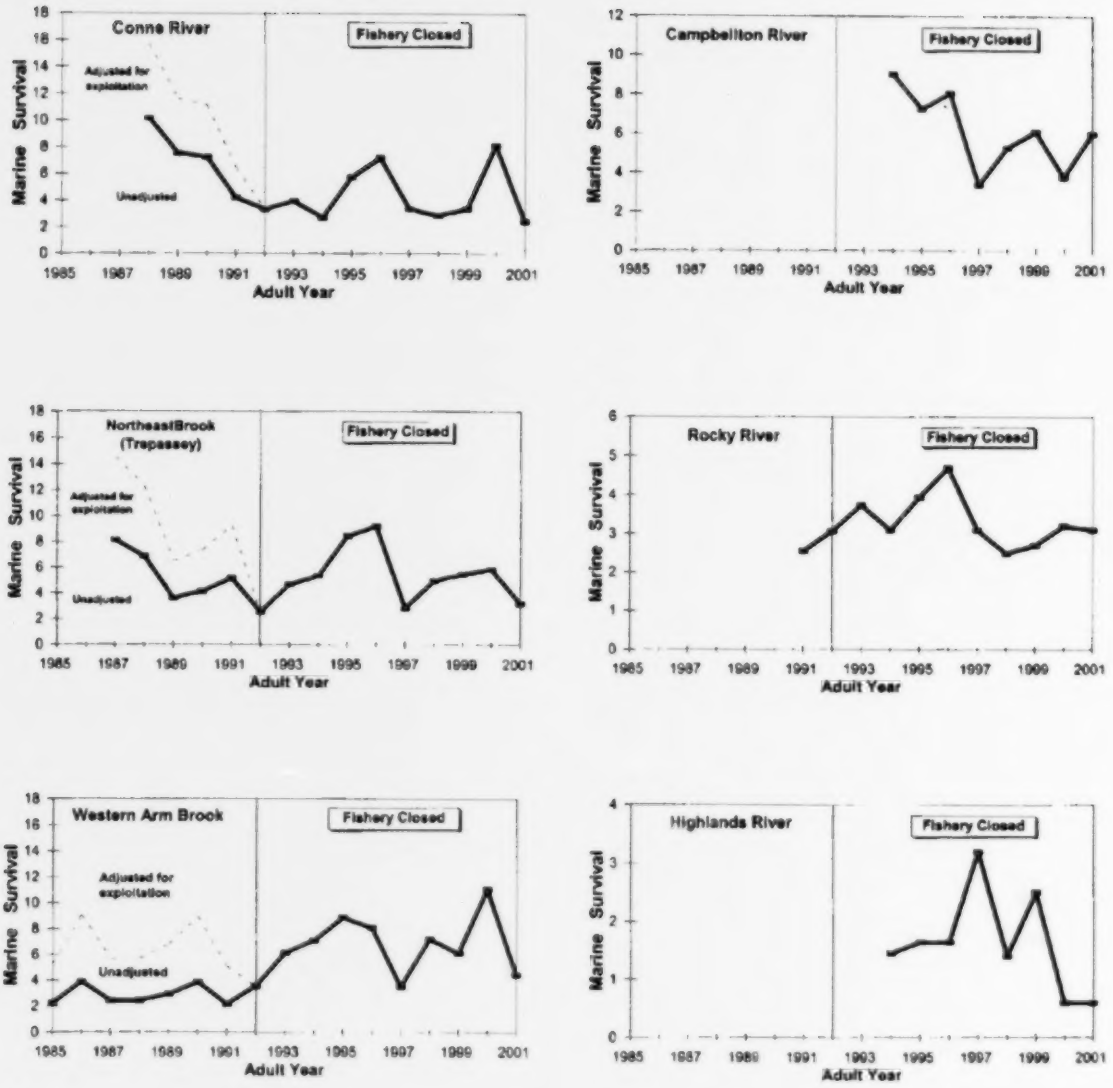

Fig. 2. Estimates of marine survival from smolts in year i to adult small salmon in year i+1. Dashed line represents marine survival adjusted for average marine exploitation rate (from Dempson et al. MS 1998).

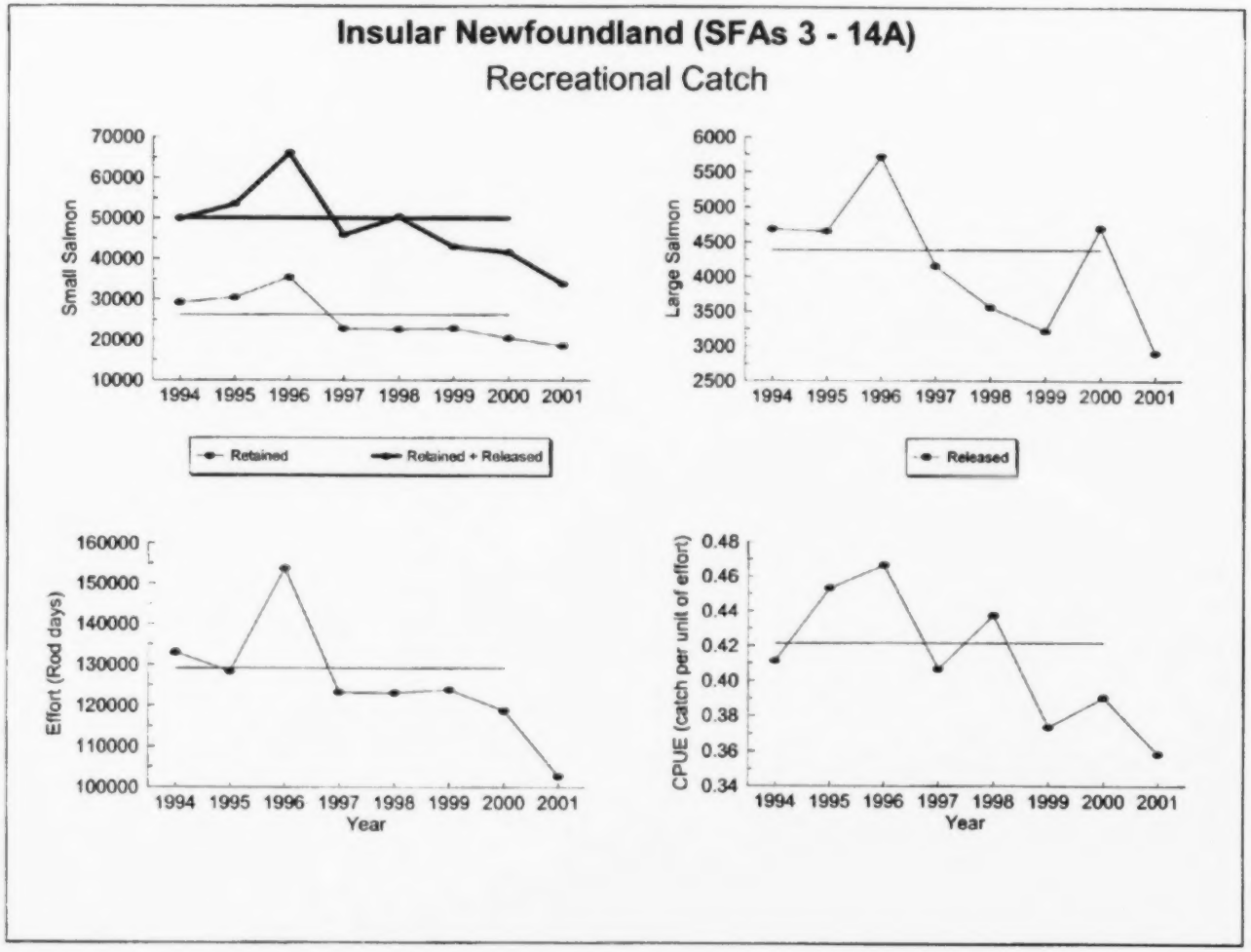

Fig. 3. Recreational catch of small salmon (retained and retained plus released), large salmon released, effort, and CPUE, 1994 - 2001, for Insular Newfoundland (SFAs 3-14A). The thin horizontal line represents the 1994-2000 mean for small retained, large released, effort and CPUE, and the thick horizontal line the 1994-2000 mean for retained and released small salmon combined.

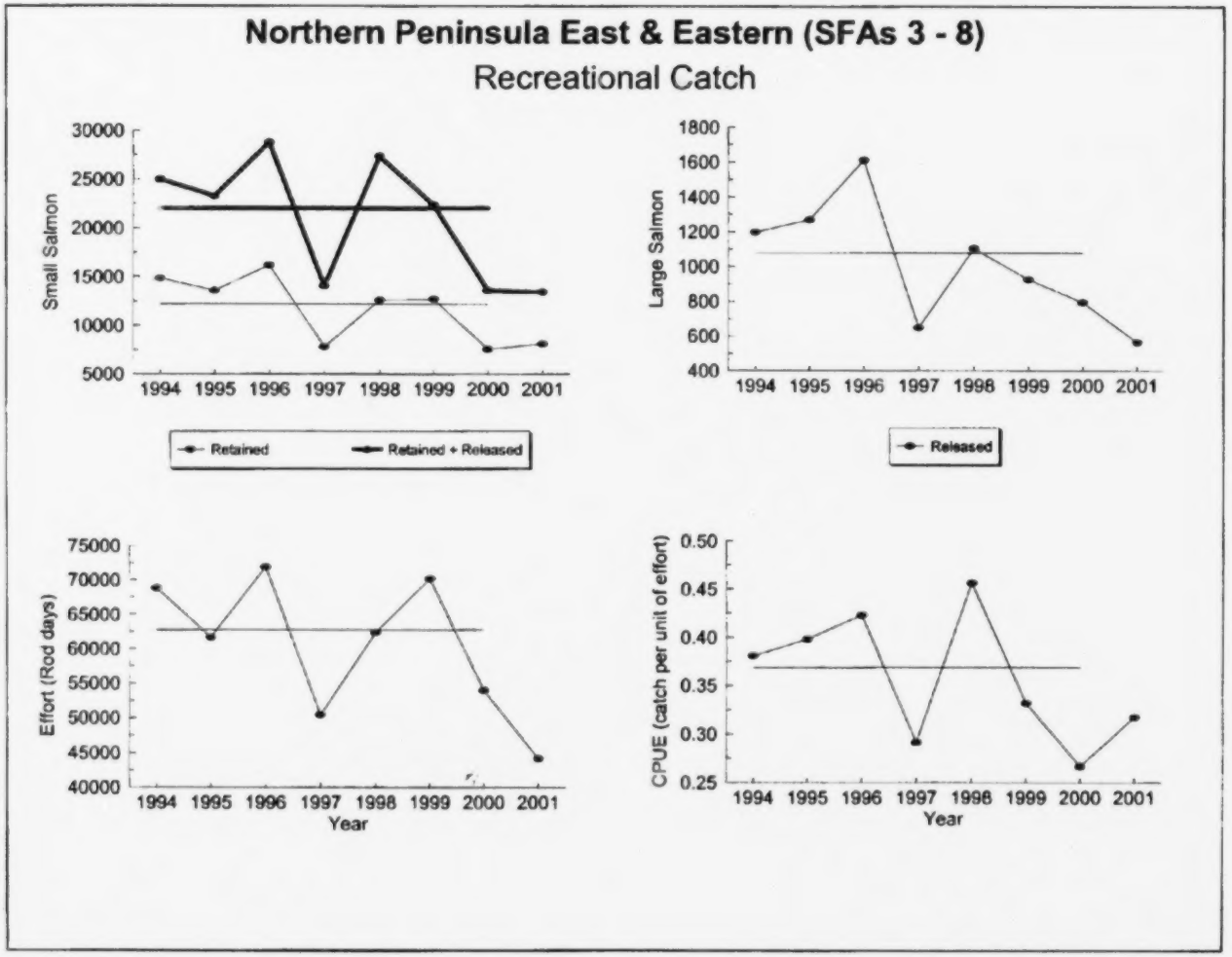

Fig. 4. Recreational catch of small salmon (retained and retained plus released), large salmon released, effort, and CPUE, 1994 - 2001, for Northern Peninsula East & Eastern (SFAs 3-8). The thin horizontal line represents the 1994-2000 mean for small retained, large released, effort and CPUE, and the thick horizontal line the 1994-2000 mean for retained and released small salmon combined.

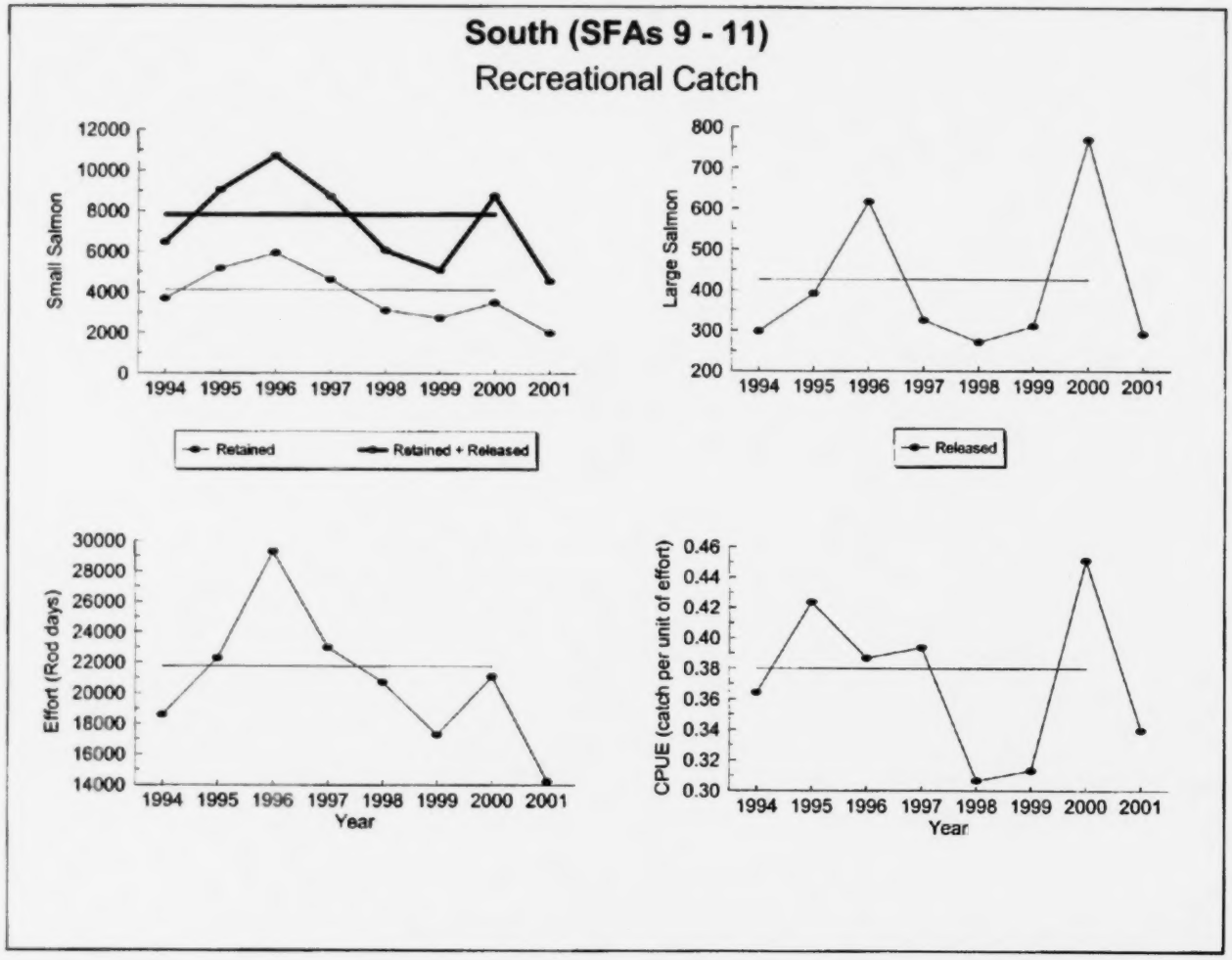

Fig. 5. Recreational catch of small salmon (retained and retained plus released), large salmon released, effort, and CPUE, 1994 - 2001, for South (SFAs 9-11). The thin horizontal line represents the 1994-2000 mean for small retained, large released, effort and CPUE, and the thick horizontal line the 1994-2000 mean for retained and released small salmon combined.

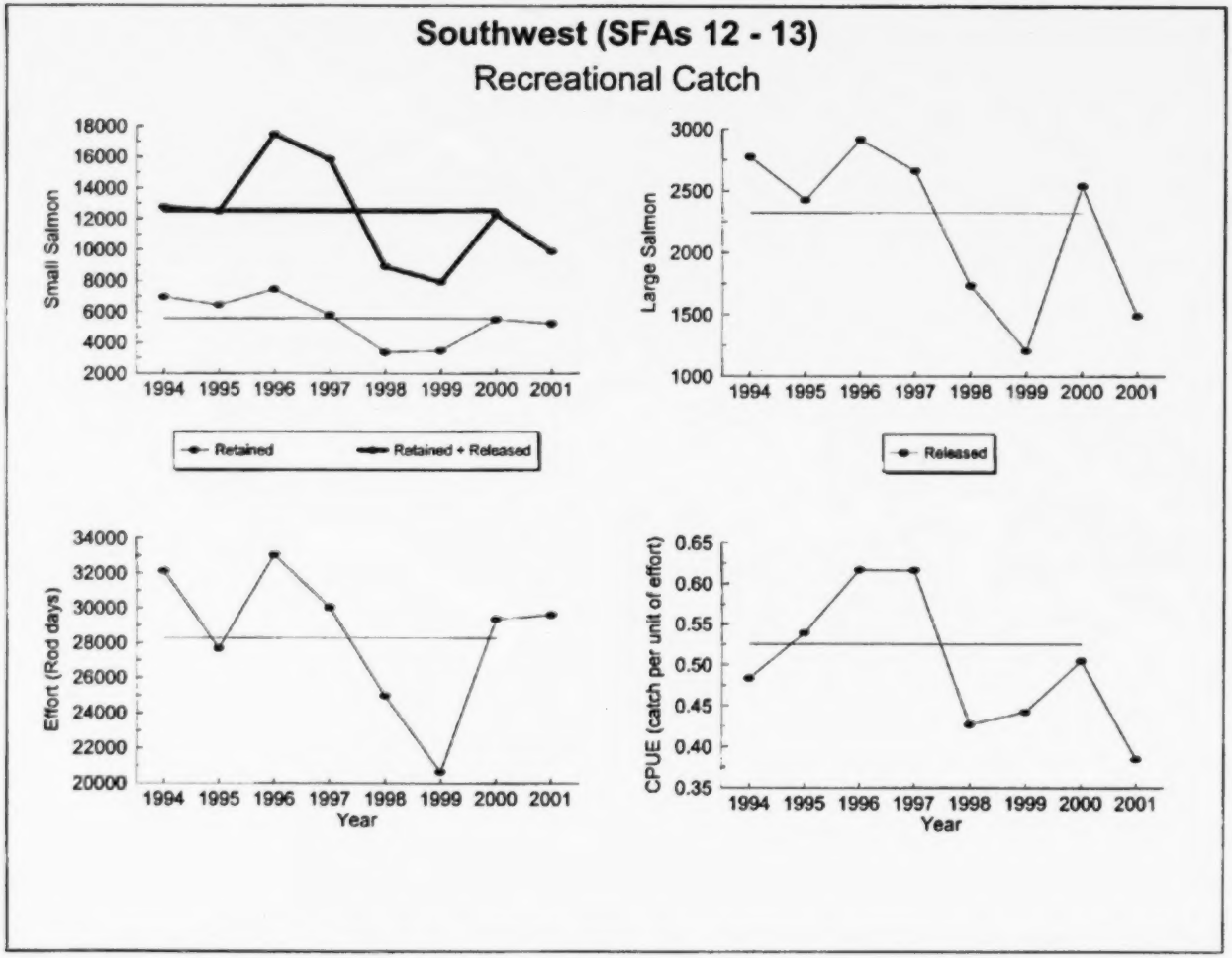

Fig. 6. Recreational catch of small salmon (retained and retained plus released), large salmon released, effort, and CPUE, 1994 - 2001, for Southwest (SFAs 12-13). The thin horizontal line represents the 1994-2000 mean for small retained, large released, effort and CPUE, and the thick horizontal line the 1994-2000 mean for retained and released small salmon combined.

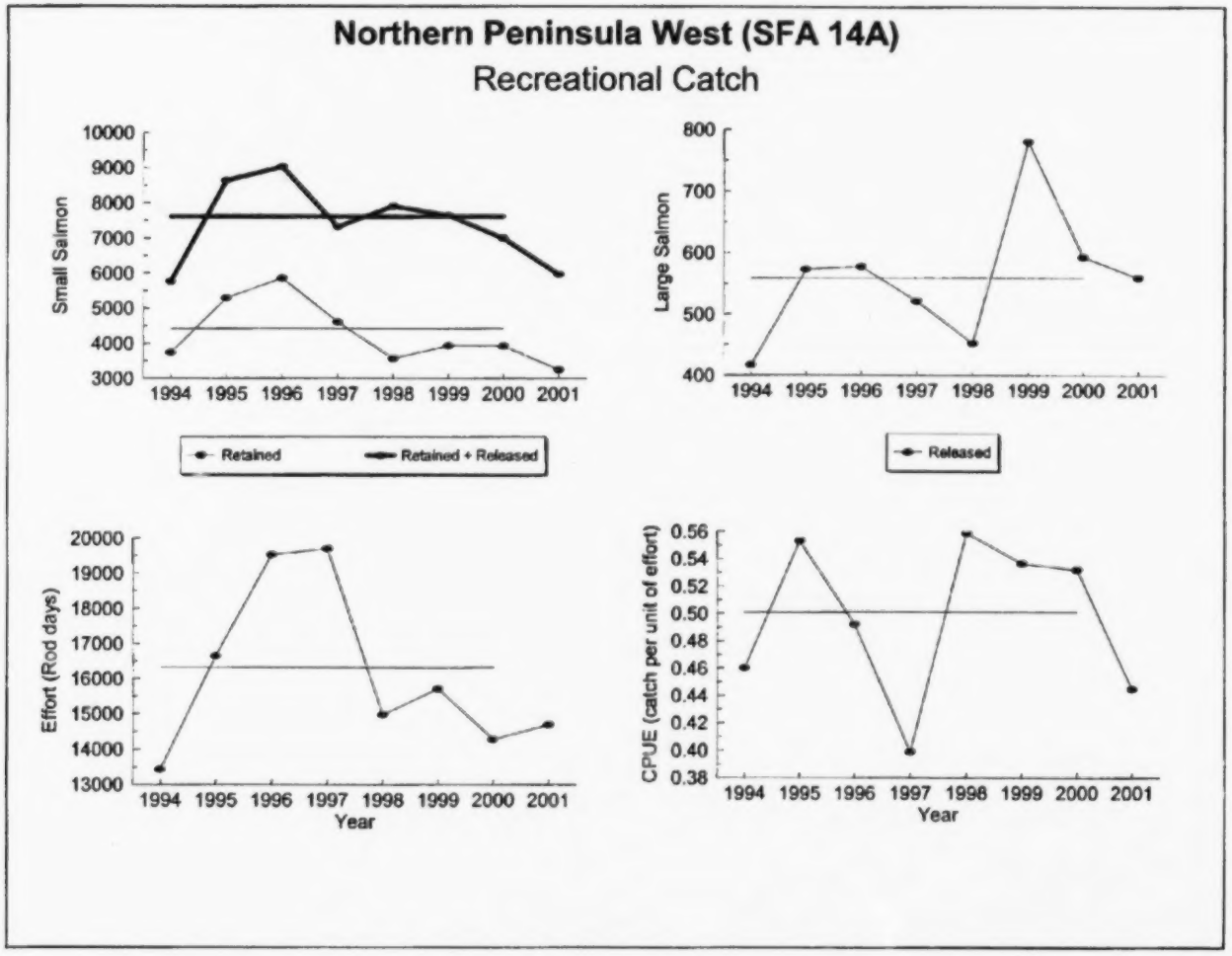

Fig. 7. Recreational catch of small salmon (retained and retained plus released), large salmon released, effort, and CPUE, 1994 - 2001, for Northern Peninsula West (SFA 14A). The thin horizontal line represents the 1994-2000 mean for small retained, large released, effort and CPUE, and the thick horizontal line the 1994-2000 mean for retained and released small salmon combined.

NORTHEAST COAST
Total Returns

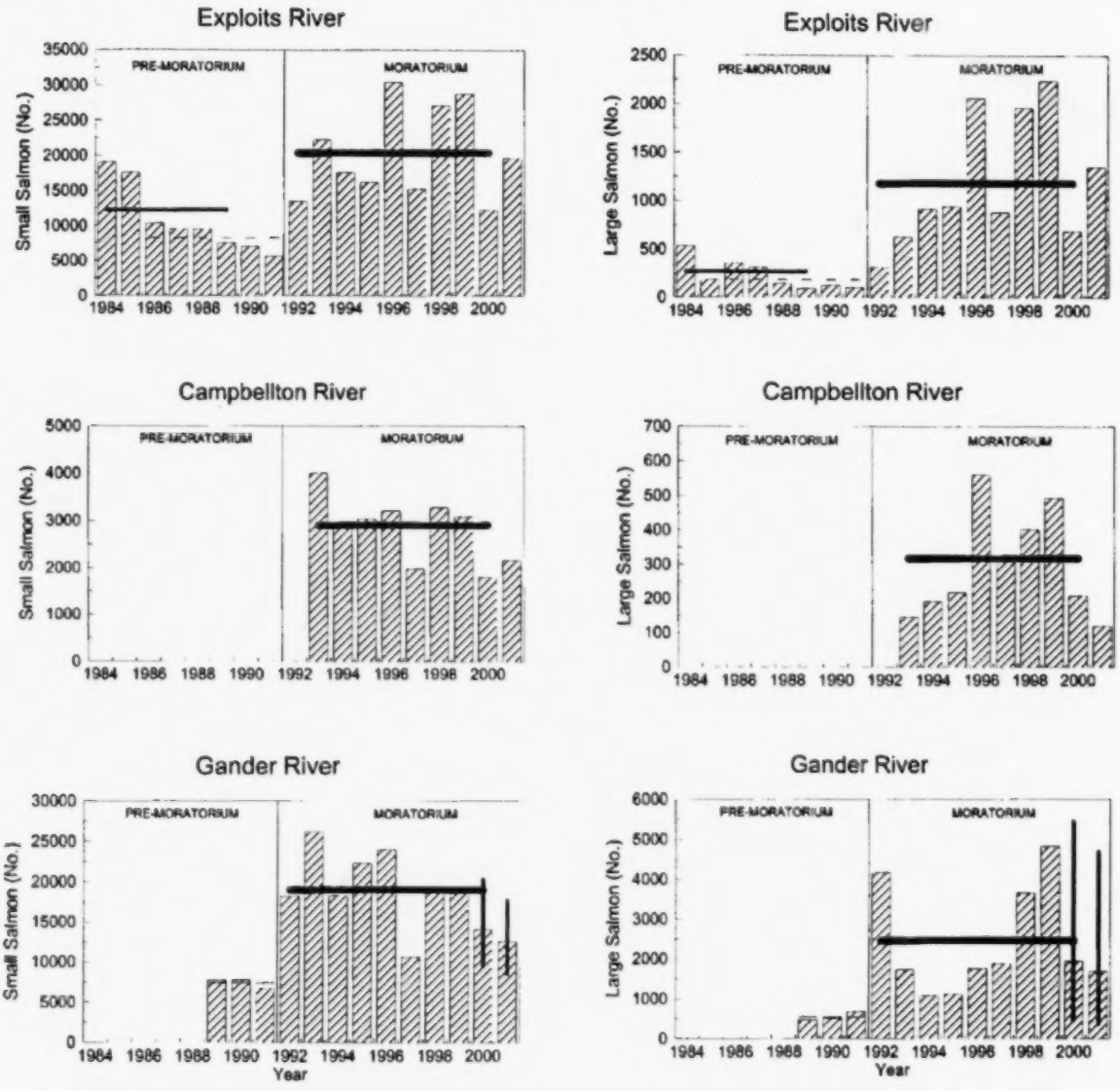

Fig. 8. Total returns of small and large salmon to Exploits River, Campbellton River and Gander River (northeast coast), 1984-2001. The thin solid horizontal line represents the 1984-1989 mean, the broken line the 1986-1991 mean, and the thick solid line the 1992-2000 mean.

Northeast Coast

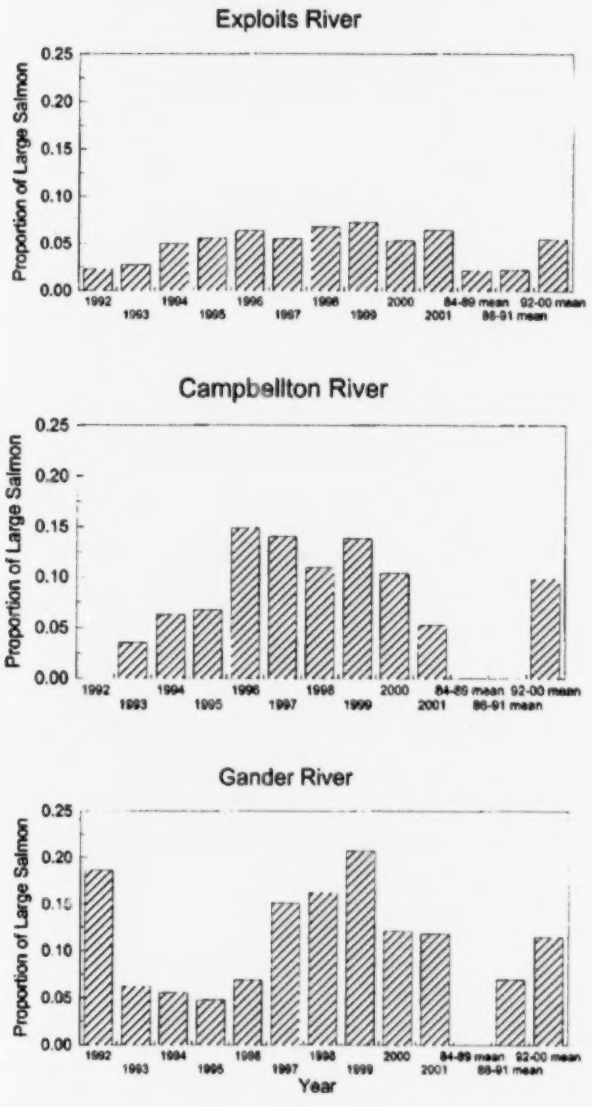

Fig. 9. Proportion of large salmon in total returns to Exploits River, Campbellton River and Gander River, (northeast coast), 1992-2001, and the 1984-1989, 1986-1991 and 1992-2000 means.

EAST COAST

Total Returns

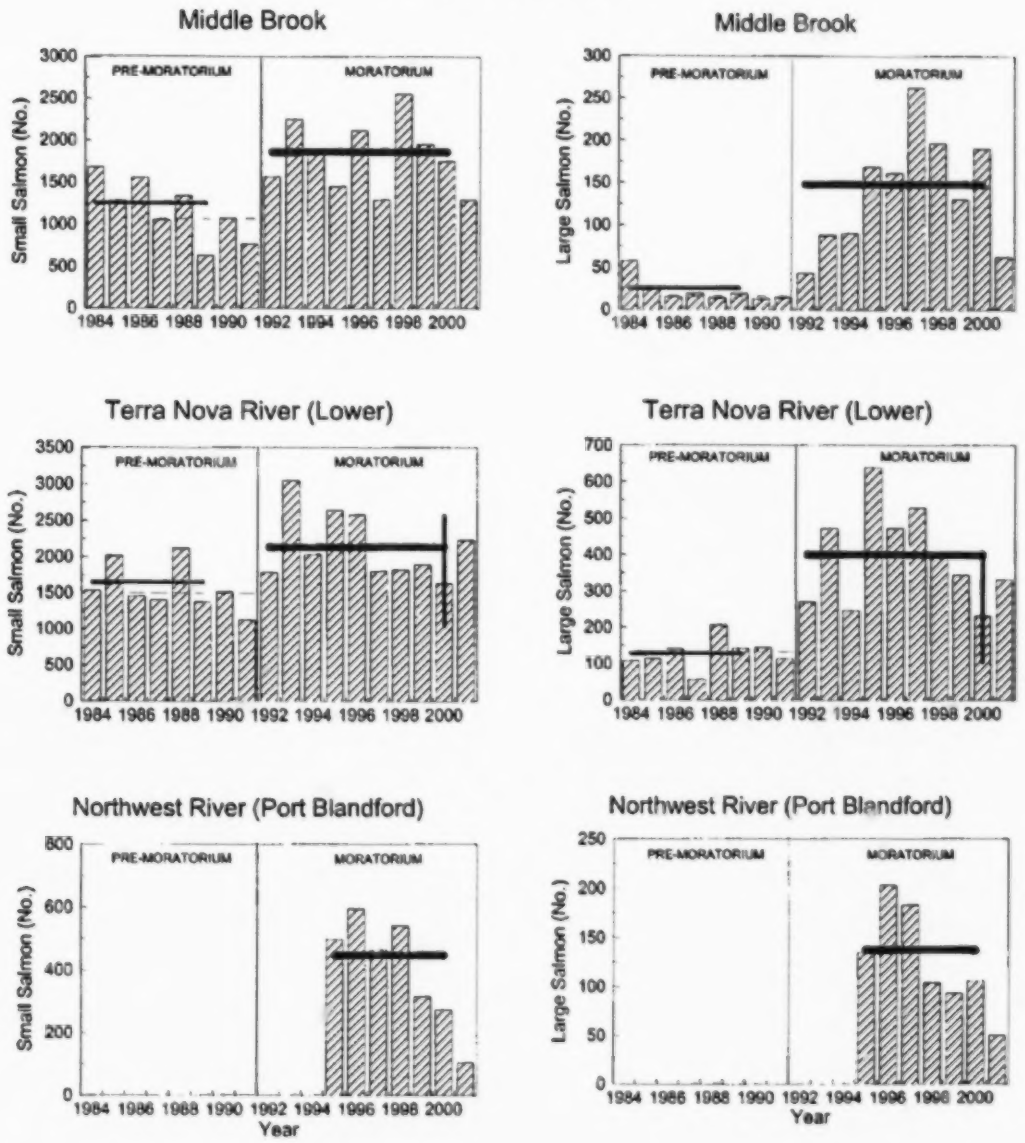

Fig. 10. Total returns of small and large salmon to Middle Brook, Terra Nova River and Northwest River, Port Blandford (east coast), 1984-2001. The thin solid horizontal line represents the 1984-1989 mean, the broken line the 1986-1991 mean, and the thick solid line the 1992-2000 mean.

East Coast

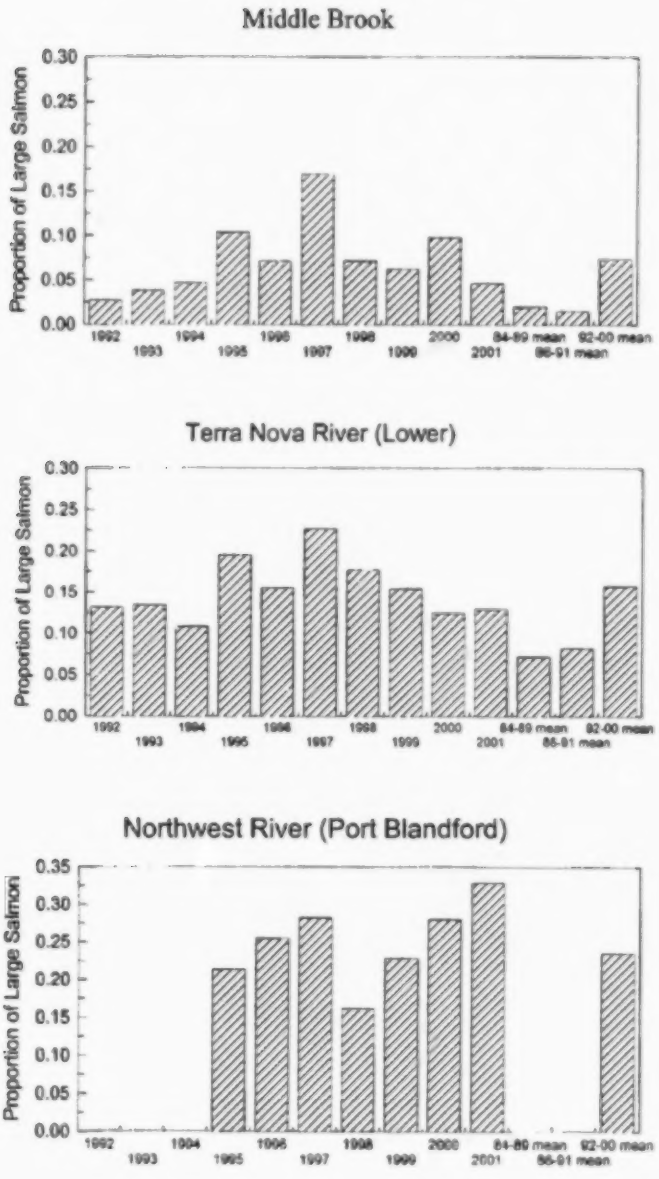

Fig. 11. Proportion of large salmon in total returns to Middle Brook, Terra Nova River, and Northwest River (Port Blandford), (east coast), 1992-2001, and the 1984-1989, 1986-1991 and 1992-2000 means.

SOUTH COAST
Total Returns

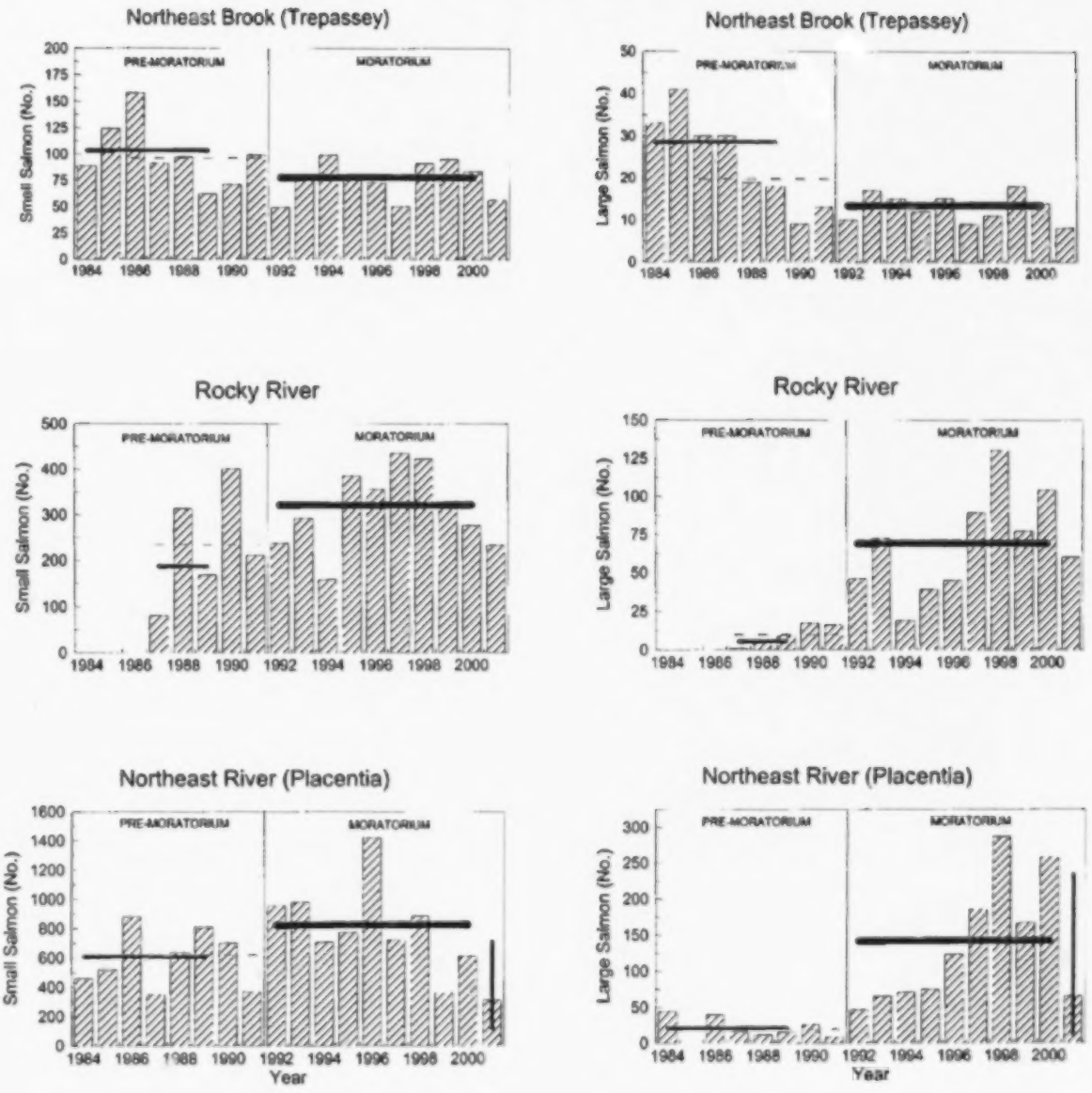

Fig. 12. Total returns of small and large salmon to Northeast Brook (Trepassey), Rocky River, Northeast River (Placentia), Little River, and Conne River, (south coast), 1984-2001. The thin solid horizontal line represents the 1984-1889 mean, the broken line the 1986-1991 mean, and the thick solid line the 1992-2000 mean.

SOUTH COAST
Total Returns

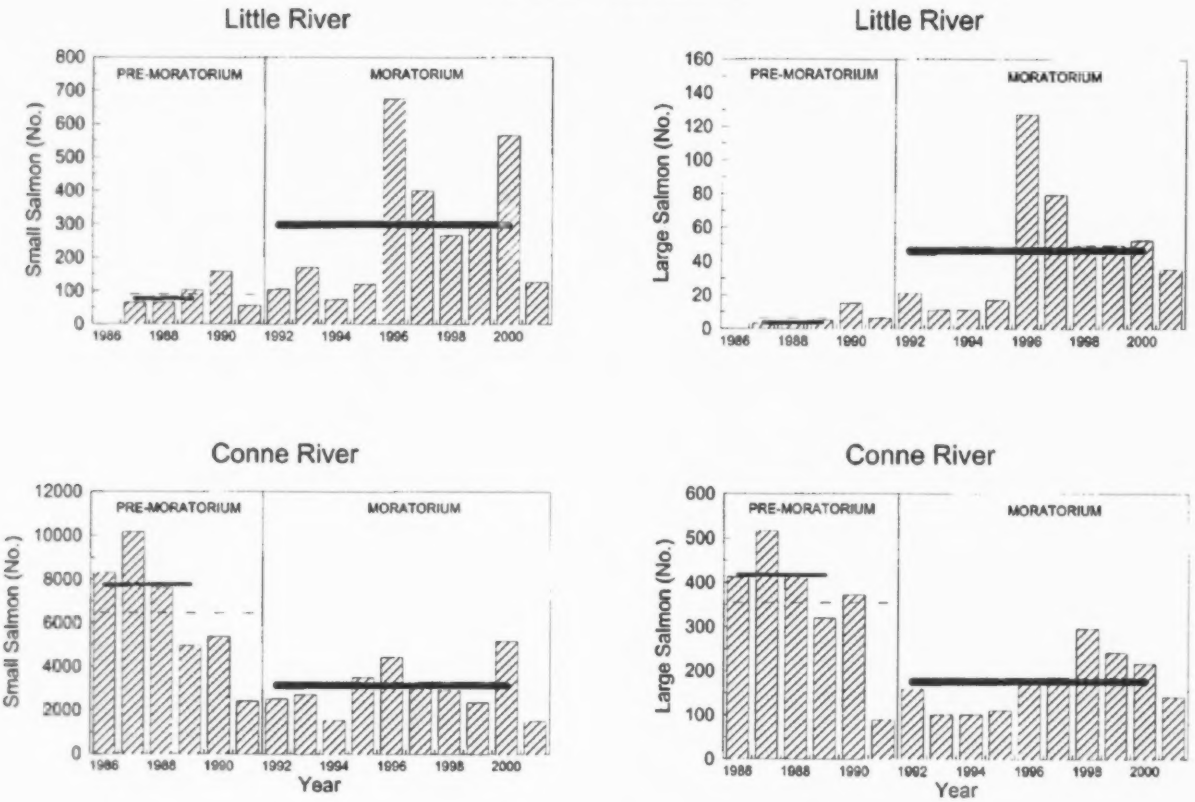

Fig. 12 cont'd

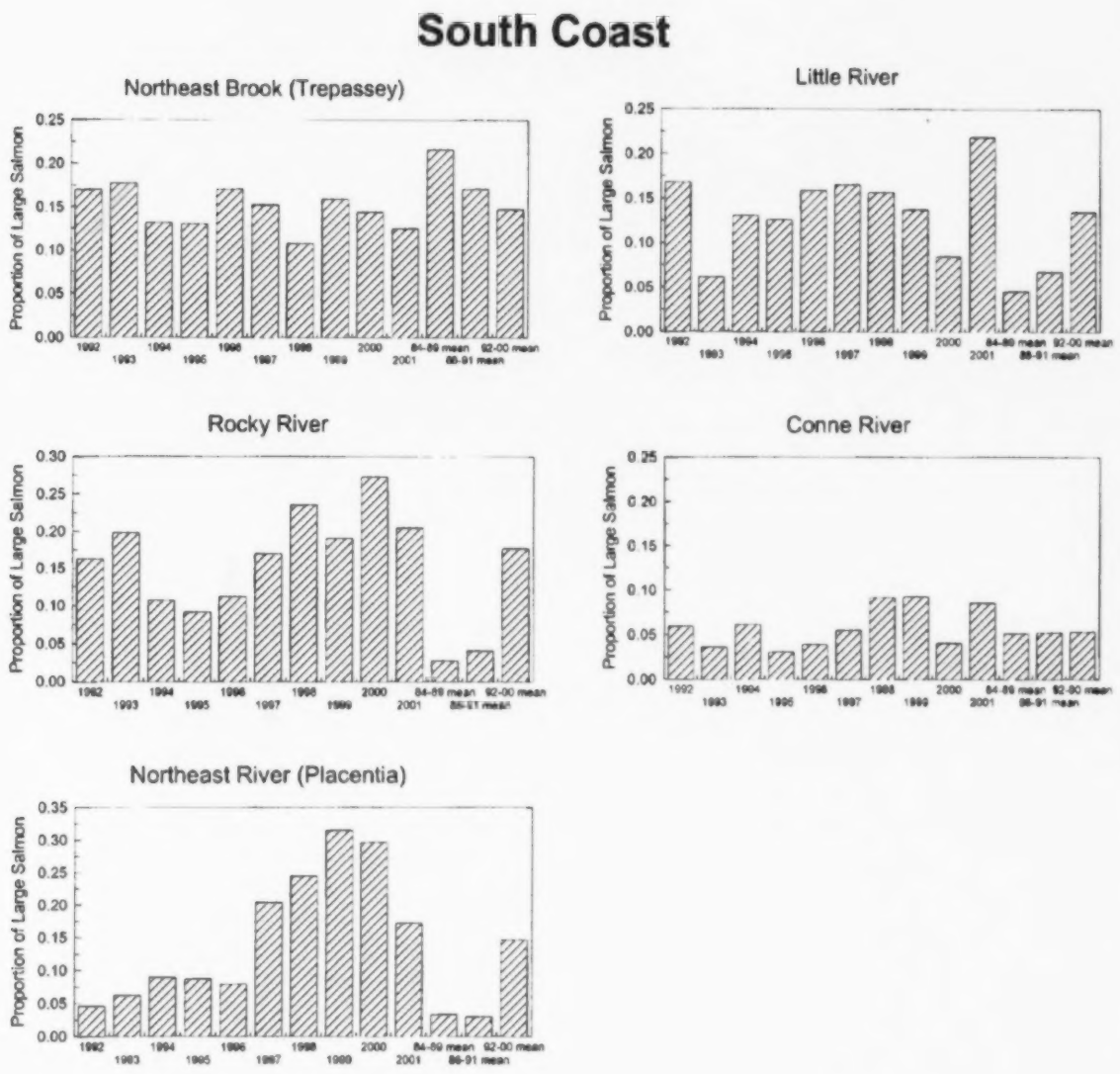

Fig. 13. Proportion of large salmon in total returns to Northeast Brook (Trepassey), Rocky River, Northeast River (Placentia), Little River and Conne River, (south coast), 1992-2001, and the 1984-1989, 1986-1991 and 1992-2000 means.

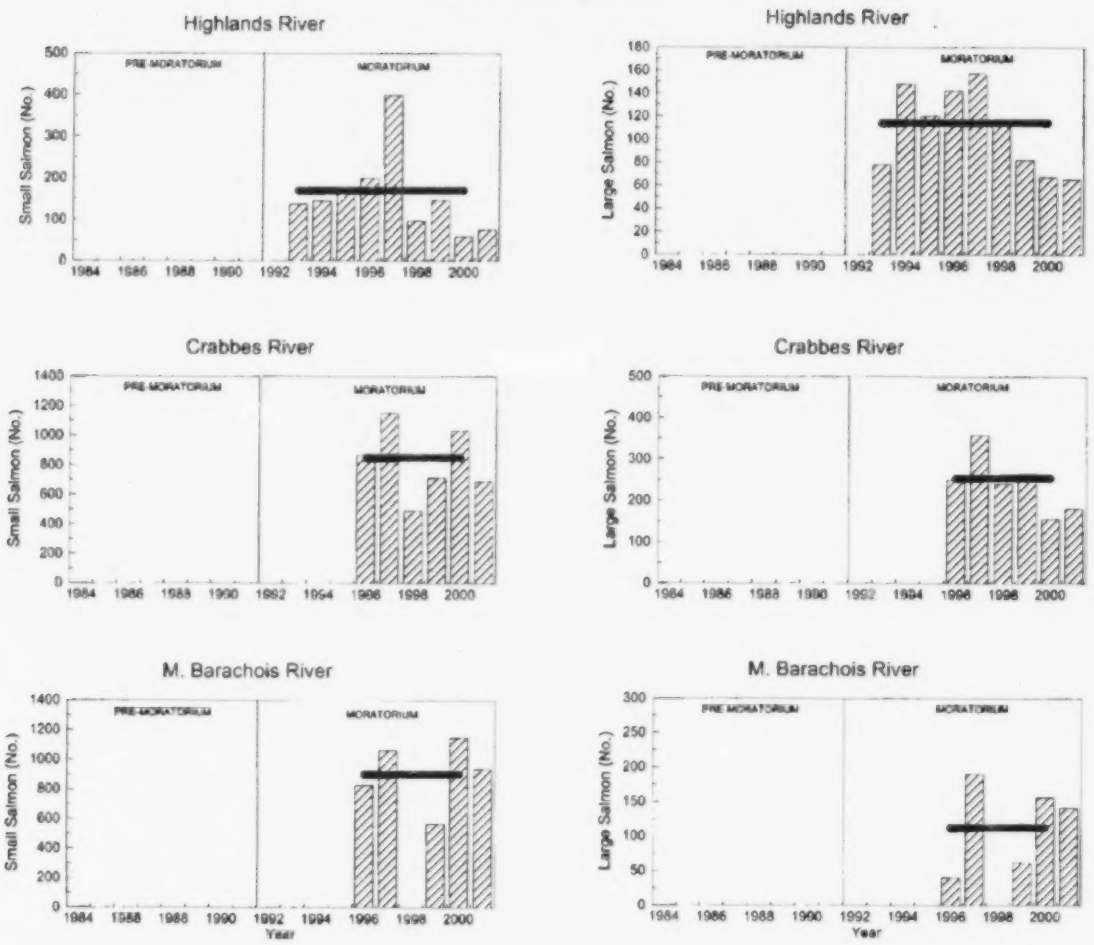

Fig. 14. Total returns of small and large salmon to Highlands River, Crabbes River, M. Barachois River, Robinsons River, Fishcells River, Flat Bay Brook, and Harry's River, (southwest coast), 1984-2001. The thick solid horizontal line represents the 1992-2000 mean.

Southwest Coast
Total Returns

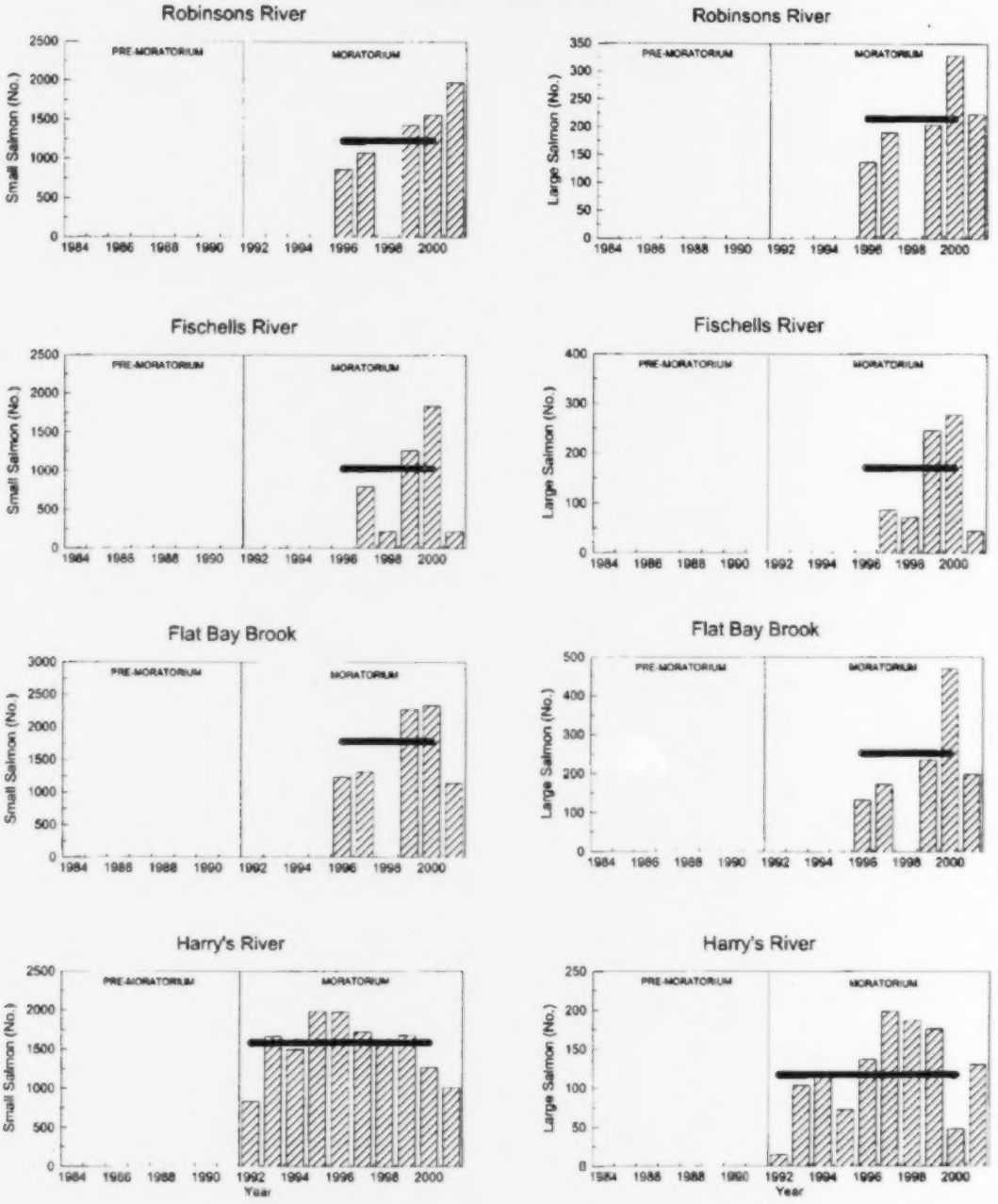

Fig. 14 cont'd

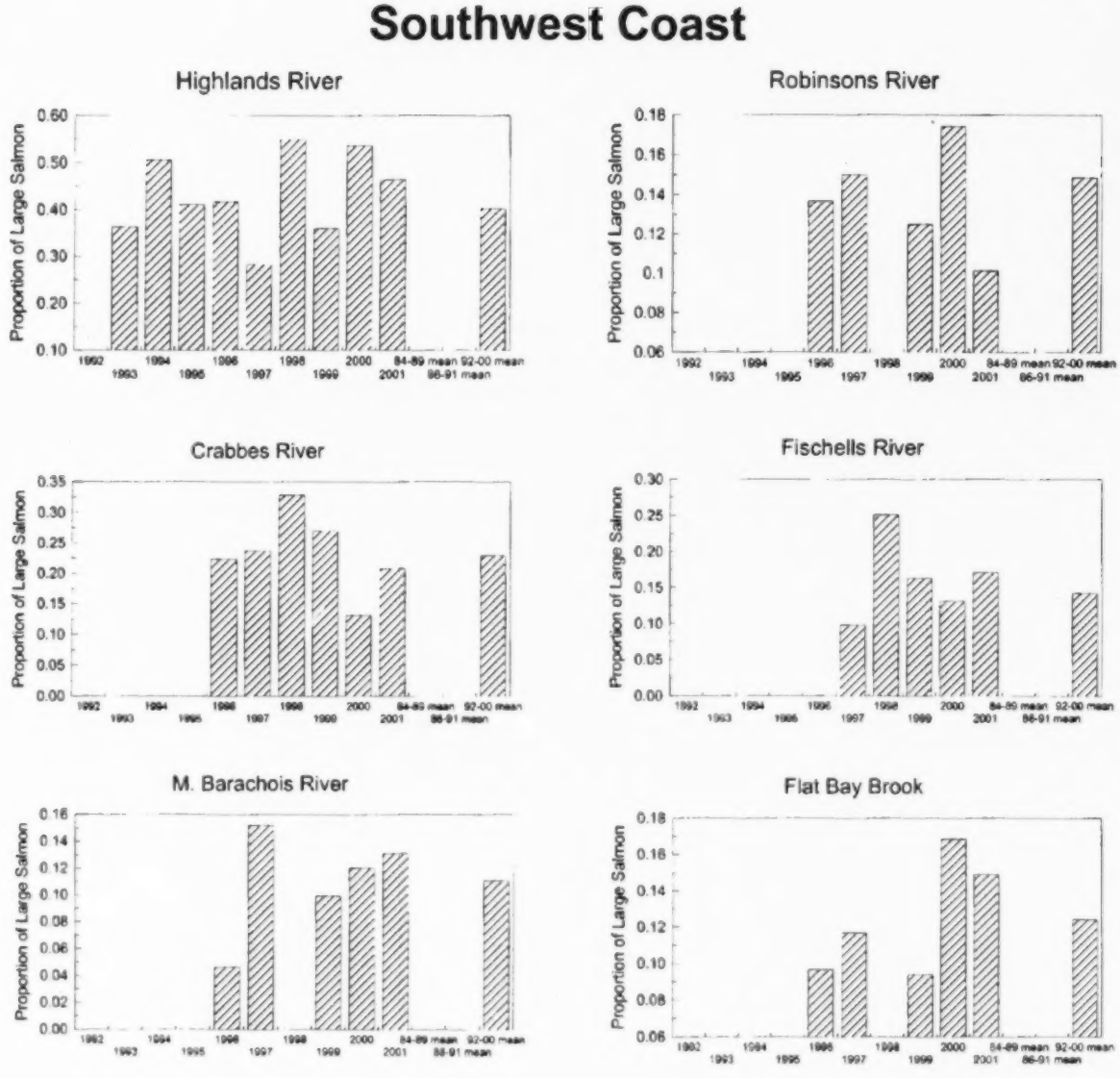

Fig. 15. Proportion of large salmon in total returns to Highlands River, Crabbes River, M. Barachois River, Robinsons River, Fischells River, Flat Bay Brook, and Harry's River, (southwest coast), 1992-2001, and the 1984-1989, 1986-1991 and 1992-2000 means.

Southwest Coast

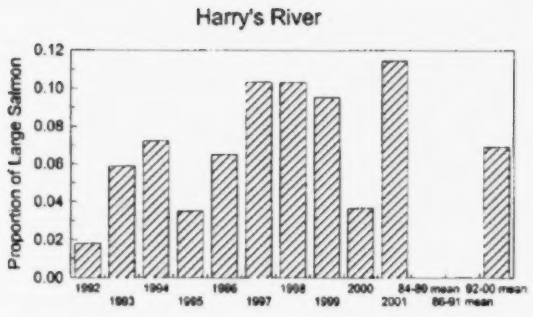

Fig. 15 cont'd

NORTHWEST COAST
Total Returns

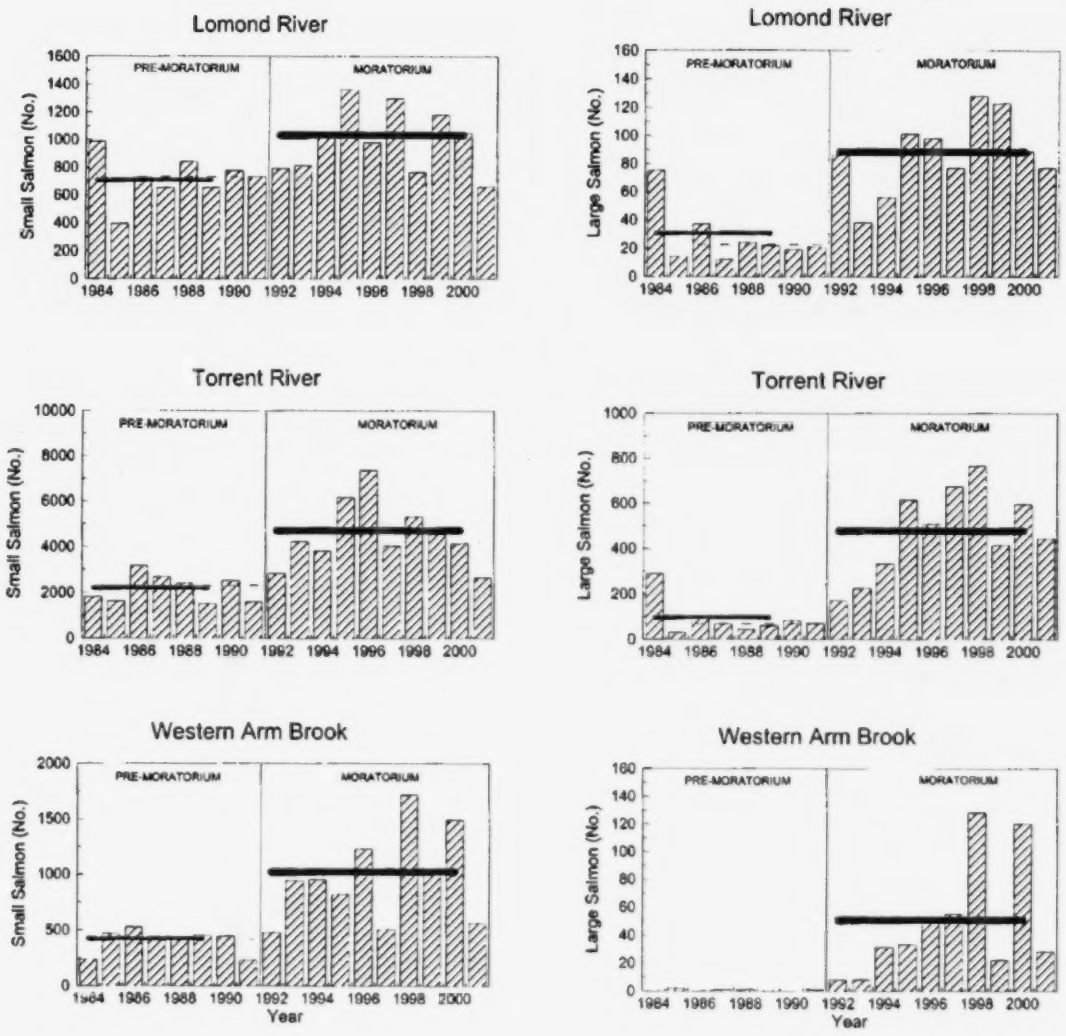

Fig. 16. Total returns of small and large salmon to Lomond River, Torrent River and Western Arm Brook, (northwest coast), 1984-2001. The thin solid horizontal line represents the 1984-1989 mean, the broken line the 1986-1991 mean, and the thick solid line the 1992-2000 mean.

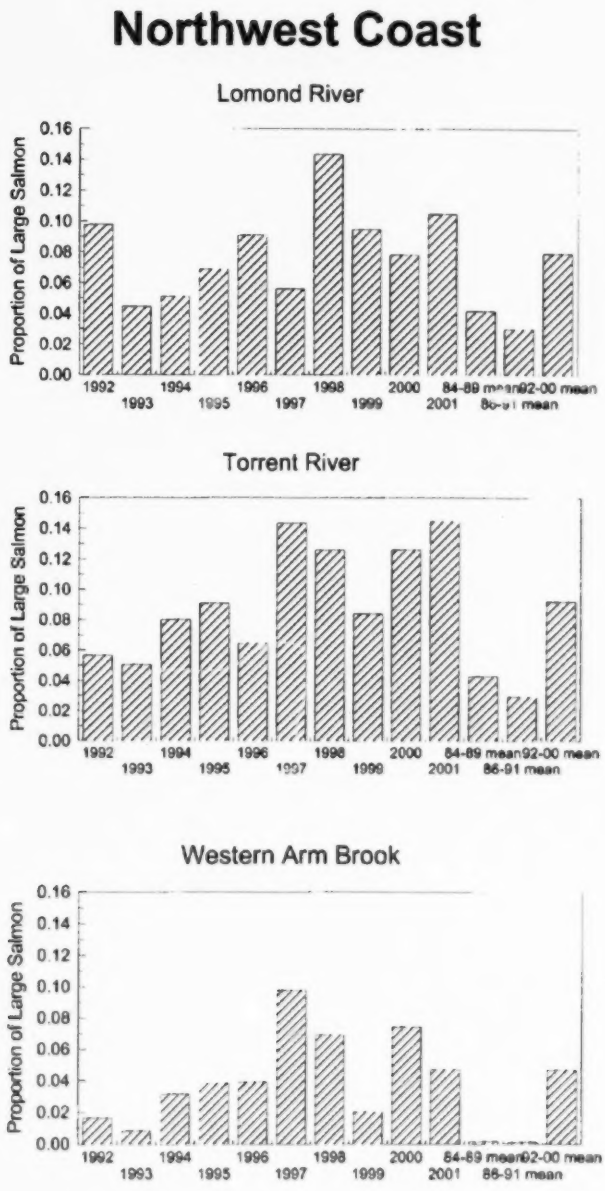

Fig. 17. Proportion of large salmon in total returns to Lomond River, Torrent River and Western Arm Brook, (northwest coast), 1992-2001, and the 1984-1989, 1986-1991 and 1992-2000 means.

Appendix 1a. Atlantic salmon recreational fishery catch and effort data for insular Newfoundland (SFAs 3 - 14A), 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	132935	29225	20761	49986	*	4685	4685	29225	25446	54671	0.41
1995	128309	30512	22971	53483	*	4658	4658	30512	27629	58141	0.45
1996	153759	35440	30566	66006	*	5720	5720	35440	36286	71726	0.47
1997	123165	22819	23129	45948	*	4154	4154	22819	27283	50102	0.41
1998	123041	22668	27610	50278	*	3561	3561	22668	31171	53839	0.44
1999	123840	22870	20160	43030	*	3222	3222	22870	23382	46252	0.37
2000	118701	20486	21136	41622	*	4695	4695	20486	25831	46317	0.39
2001	102678	18601	15259	33860	*	2904	2904	18601	18163	36764	0.36
1994-2000 mean	129107.1	26288.6	23761.9	50050.4	.	4385.0	4385.0	26288.6	28146.9	54435.4	0.42
95% CL	10885.5	5075.8	3602.0	7585.3	.	767.1	767.1	5075.8	3991.8	8140.0	0.03
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1b. Atlantic salmon recreational fishery catch and effort data for Northern Peninsula East & Eastern (SFAs 3 - 8), 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	68793	14838	10145	24983	*	1196	1196	14838	11341	26179	0.38
1995	61670	13587	9693	23280	*	1269	1269	13587	10962	24549	0.40
1996	71876	16179	12604	28783	*	1611	1611	16179	14215	30394	0.42
1997	50451	7790	6253	14043	*	648	648	7790	6901	14691	0.29
1998	62367	12606	14742	27348	*	1103	1103	12606	15845	28451	0.46
1999	70198	12708	9651	22359	*	925	925	12708	10576	23284	0.33
2000	53976	7552	6046	13598	*	793	793	7552	6839	14391	0.27
2001	44129	8103	5339	13442	*	563	563	8103	5902	14005	0.32
1994-2000 mean	62761.6	12180.0	9876.3	22056.3	.	1077.9	1077.9	12180.0	10954.1	23134.1	0.37
95% CL	7597.1	3071.8	2902.0	5589.7	.	298.4	298.4	3071.8	3118.4	5849.4	0.06
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1c. Atlantic salmon recreational fishery catch and effort data for South (SFAs 9 - 11), 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	18587	3700	2772	6472	*	298	298	3700	3070	6770	0.36
1995	22293	5188	3863	9051	*	391	391	5188	4254	9442	0.42
1996	29290	5939	4772	10711	*	617	617	5939	5389	11328	0.39
1997	22978	4630	4088	8718	*	325	325	4630	4413	9043	0.39
1998	20708	3120	2957	6077	*	271	271	3120	3228	6348	0.31
1999	17294	2735	2368	5103	*	311	311	2735	2679	5414	0.31
2000	21083	3496	5245	8741	*	769	769	3496	6014	9510	0.45
2001	14238	1995	2545	4540	*	292	292	1995	2837	4832	0.34
1994-2000 mean	21747.6	4115.4	3723.6	7839.0	.	426.0	426.0	4115.4	4149.6	8265.0	0.38
95% CL	3582.9	1080.8	991.6	1840.6	.	176.8	176.8	1080.8	1149.6	1960.5	0.05
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1d. Atlantic salmon recreational fishery catch and effort data for Southwest (SFAs 12 & 13), 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	32127	6953	5816	12769	*	2774	2774	6953	8590	15543	0.48
1995	27696	6450	6066	12516	*	2425	2425	6450	8491	14941	0.54
1996	33068	7461	10022	17483	*	2915	2915	7461	12937	20398	0.62
1997	30041	5790	10063	15853	*	2660	2660	5790	12723	18513	0.62
1998	24986	3374	5560	8934	*	1735	1735	3374	7295	10669	0.43
1999	20635	3499	4419	7918	*	1206	1206	3499	5625	9124	0.44
2000	29365	5514	6769	12283	*	2540	2540	5514	9309	14823	0.50
2001	29614	5254	4648	9902	*	1490	1490	5254	6138	11392	0.38
1994-2000 mean	28274.0	5577.3	6959.3	12536.6	.	2322.1	2322.1	5577.3	9281.4	14858.7	0.53
95% CL	3989.5	1483.0	2053.1	3156.7	.	574.9	574.9	1483.0	2493.9	3679.3	0.07
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1e. Atlantic salmon recreational fishery catch and effort data for the Northern Peninsula West (SFA 14A), 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	13428	3734	2028	5762	*	417	417	3734	2445	6179	0.46
1995	16650	5287	3349	8636	*	573	573	5287	3922	9209	0.55
1996	19525	5861	3168	9029	*	577	577	5861	3745	9606	0.49
1997	19695	4609	2725	7334	*	521	521	4609	3246	7855	0.40
1998	14980	3568	4351	7919	*	452	452	3568	4803	8371	0.56
1999	15713	3928	3722	7650	*	780	780	3928	4502	8430	0.54
2000	14277	3924	3076	7000	*	593	593	3924	3669	7593	0.53
2001	14697	3249	2727	5976	*	559	559	3249	3286	6535	0.44
1994-2000 mean	16324.0	4415.9	3202.7	7618.6	.	559.0	559.0	4415.9	3761.7	8177.6	0.50
95% CL	2280.3	805.3	679.1	1000.9	.	109.2	109.2	805.3	723.0	1044.0	0.06
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1f. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 3, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	11809	3667	2690	6357	*	201	201	3667	2891	6558	0.56
1995	8920	2589	2069	4658	*	293	293	2589	2362	4951	0.56
1996	10947	3492	2981	6473	*	267	267	3492	3248	6740	0.62
1997	7925	2148	1938	4086	*	164	164	2148	2102	4250	0.54
1998	10152	2917	3092	6009	*	229	229	2917	3321	6238	0.61
1999	8557	2037	1393	3430	*	75	75	2037	1468	3505	0.41
2000	9069	2050	1112	3162	*	156	156	2050	1268	3318	0.37
2001	7989	1432	1463	2895	*	109	109	1432	1572	3004	0.38
1994-2000 mean	9625.6	2700.0	2182.1	4882.1	.	197.9	197.9	2700.0	2380.0	5080.0	0.53
95% CL	1287.8	630.5	712.8	1293.0	.	68.4	68.4	630.5	759.5	1338.8	0.09
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1g. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 4, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	39900	8241	5837	14078	*	847	847	8241	6684	14925	0.37
1995	36736	7976	5904	13880	*	755	755	7976	6659	14635	0.40
1996	44128	9395	7746	17141	*	1138	1138	9395	8884	18279	0.41
1997	31462	4396	3697	8093	*	420	420	4396	4117	8513	0.27
1998	40632	7784	10040	17824	*	588	588	7784	10628	18412	0.45
1999	50159	9054	6975	16029	*	674	674	9054	7649	16703	0.33
2000	32820	4024	3804	7828	*	442	442	4024	4246	8270	0.25
2001	29575	5726	3205	8931	*	410	410	5726	3615	9341	0.32
1994-2000 mean	39405.3	7267.1	6286.1	13553.3	.	694.9	694.9	7267.1	6981.0	14248.1	0.36
95% CL	6009.1	2005.1	2065.0	3779.9	.	231.1	231.1	2005.1	2177.0	3939.3	0.06
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1h. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 5, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel.= released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	14727	2730	1547	4277	*	131	131	2730	1678	4408	0.30
1995	13557	2818	1672	4490	*	210	210	2818	1882	4700	0.35
1996	14328	3110	1786	4896	*	185	185	3110	1971	5081	0.35
1997	9690	1181	589	1770	*	58	58	1181	647	1828	0.19
1998	9683	1764	1556	3320	*	276	276	1764	1832	3596	0.37
1999	9591	1526	1156	2682	*	170	170	1526	1326	2852	0.30
2000	8932	1331	1014	2345	*	180	180	1331	1194	2525	0.28
2001	5745	889	644	1533	*	40	40	889	684	1573	0.27
1994-2000 mean	11501.1	2065.7	1331.4	3397.1	.	172.9	172.9	2065.7	1504.3	3570.0	0.31
95% CL	2371.8	736.3	396.4	1100.0	.	62.2	62.2	736.3	440.5	1126.8	0.05
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1i. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 6, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	1772	151	63	214	*	15	15	151	78	229	0.13
1995	1505	98	14	112	*	5	5	98	19	117	0.08
1996	1561	115	59	174	*	16	16	115	75	190	0.12
1997	923	43	21	64	*	2	2	43	23	66	0.07
1998	947	80	33	113	*	4	4	80	37	117	0.12
1999	1382	59	28	87	*	4	4	59	32	91	0.07
2000	2522	119	58	177	*	11	11	119	69	188	0.07
2001	597	45	3	48	*	2	2	45	5	50	0.08
1994-2000 mean	1516.0	95.0	39.4	134.4	.	8.1	8.1	95.0	47.6	142.6	0.09
95% CL	502.8	34.5	18.7	50.5	.	5.3	5.3	34.5	23.6	55.5	0.03
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1j. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 7, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	290	18	6	24	*	0	0	18	6	24	0.08
1995	624	59	6	65	*	3	3	59	9	68	0.11
1996	543	27	0	27	*	0	0	27	0	27	0.05
1997	179	11	0	11	*	4	4	11	4	15	0.08
1998	661	37	0	37	*	2	2	37	2	39	0.06
1999	166	10	3	13	*	0	0	10	3	13	0.08
2000	186	17	6	23	*	0	0	17	6	23	0.12
2001	204	8	24	32	*	2	2	8	26	34	0.17
1994-2000 mean	378.4	25.6	3.0	28.6	.	1.3	1.3	25.6	4.3	29.9	0.08
95% CL	205.8	16.2	2.8	16.9	.	1.6	1.6	16.2	2.8	17.4	0.03
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1k. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 8, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	295	31	2	33	*	2	2	31	4	35	0.12
1995	328	47	28	75	*	3	3	47	31	78	0.24
1996	369	40	32	72	*	5	5	40	37	77	0.21
1997	272	11	8	19	*	0	0	11	8	19	0.07
1998	292	24	21	45	*	4	4	24	25	49	0.17
1999	343	22	96	118	*	2	2	22	98	120	0.35
2000	447	11	52	63	*	4	4	11	56	67	0.15
2001	19	3	0	3	*	0	0	3	0	3	0.16
1994-2000 mean	335.1	26.6	34.1	60.7	.	2.9	2.9	26.6	37.0	63.6	0.19
95% CL	55.0	12.7	29.4	30.1	.	1.6	1.6	12.7	29.7	30.7	0.08
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1l. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 9, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	5708	843	403	1246	*	48	48	843	451	1294	0.23
1995	7194	1350	843	2193	*	138	138	1350	981	2331	0.32
1996	7701	1076	704	1780	*	123	123	1076	827	1903	0.25
1997	5928	664	452	1116	*	65	65	664	517	1181	0.20
1998	5104	698	592	1290	*	100	100	698	692	1390	0.27
1999	5034	585	291	876	*	103	103	585	394	979	0.19
2000	6142	835	436	1271	*	139	139	835	575	1410	0.23
2001	3453	297	266	563	*	65	65	297	331	628	0.18
1994-2000 mean	6115.9	864.4	531.6	1396.0	.	102.3	102.3	864.4	633.9	1498.3	0.24
95% CL	930.4	247.0	177.2	410.3	.	32.5	32.5	247.0	195.9	428.6	0.04
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1m. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 10, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	4872	713	270	983	*	56	56	713	326	1039	0.21
1995	5921	1109	446	1555	*	82	82	1109	528	1637	0.28
1996	10641	1475	825	2300	*	161	161	1475	986	2461	0.23
1997	6723	926	588	1514	*	95	95	926	683	1609	0.24
1998	9425	1163	525	1688	*	88	88	1163	613	1776	0.19
1999	5903	745	552	1297	*	151	151	745	703	1448	0.25
2000	6900	814	1005	1819	*	423	423	814	1428	2242	0.32
2001	4161	424	504	928	*	105	105	424	609	1033	0.25
1994-2000 mean	7197.9	992.1	601.6	1593.7	.	150.9	150.9	992.1	752.4	1744.6	0.24
95% CL	1919.6	253.6	225.1	382.7	.	116.4	116.4	253.6	331.3	443.1	0.04
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1n. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 11, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	8007	2144	2099	4243	*	194	194	2144	2293	4437	0.55
1995	9178	2729	2574	5303	*	171	171	2729	2745	5474	0.60
1996	10948	3388	3243	6631	*	333	333	3388	3576	6964	0.64
1997	10327	3040	3048	6088	*	165	165	3040	3213	6253	0.61
1998	6179	1259	1840	3099	*	83	83	1259	1923	3182	0.51
1999	6357	1405	1525	2930	*	57	57	1405	1582	2987	0.47
2000	8041	1847	3804	5651	*	207	207	1847	4011	5858	0.73
2001	6624	1274	1775	3049	*	122	122	1274	1897	3171	0.48
1994-2000 mean	8433.9	2258.9	2590.4	4849.3	.	172.9	172.9	2258.9	2763.3	5022.1	0.60
95% CL	1696.7	756.8	759.7	1344.1	.	83.4	83.4	756.8	822.3	1415.7	0.07
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1o. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 12, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	2665	774	385	1159	*	88	88	774	473	1247	0.47
1995	2119	582	232	814	*	67	67	582	299	881	0.42
1996	2750	899	439	1338	*	119	119	899	558	1457	0.53
1997	3199	832	699	1531	*	110	110	832	809	1641	0.51
1998	2456	351	415	766	*	108	108	351	523	874	0.36
1999	1304	166	151	317	*	26	26	166	177	343	0.26
2000	1732	281	414	695	*	43	43	281	457	738	0.43
2001	1766	257	454	711	*	88	88	257	542	799	0.45
1994-2000 mean	2317.9	555.0	390.7	945.7	.	80.1	80.1	555.0	470.9	1025.9	0.44
95% CL	598.6	270.1	160.7	386.9	.	33.2	33.2	270.1	185.3	414.7	0.08
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1p. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 13, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	29462	6179	5431	11610	*	2686	2686	6179	8117	14296	0.49
1995	25577	5868	5834	11702	*	2358	2358	5868	8192	14060	0.55
1996	30318	6562	9583	16145	*	2796	2796	6562	12379	18941	0.62
1997	26842	4958	9364	14322	*	2550	2550	4958	11914	16872	0.63
1998	22530	3023	5145	8168	*	1627	1627	3023	6772	9795	0.43
1999	19331	3333	4268	7601	*	1180	1180	3333	5448	8781	0.45
2000	27633	5233	6355	11588	*	2497	2497	5233	8852	14085	0.51
2001	27848	4997	4194	9191	*	1402	1402	4997	5596	10593	0.38
1994-2000 mean	25956.1	5022.3	6568.6	11590.9	.	2242.0	2242.0	5022.3	8810.6	13832.9	0.53
95% CL	3595.7	1270.6	1929.0	2821.7	.	557.9	557.9	1270.6	2348.7	3323.7	0.07
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1q. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 14A, insular Newfoundland, 1994-2001. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (>=63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	13428	3734	2028	5762	*	417	417	3734	2445	6179	0.46
1995	16650	5287	3349	8636	*	573	573	5287	3922	9209	0.55
1996	19525	5861	3168	9029	*	577	577	5861	3745	9606	0.49
1997	19695	4609	2725	7334	*	521	521	4609	3246	7855	0.40
1998	14980	3568	4351	7919	*	452	452	3568	4803	8371	0.56
1999	15713	3928	3722	7650	*	780	780	3928	4502	8430	0.54
2000	14277	3924	3076	7000	*	593	593	3924	3669	7593	0.53
2001	14697	3249	2727	5976	*	559	559	3249	3286	6535	0.44
1994-2000 mean	16324.0	4415.9	3202.7	7618.6	.	559.0	559.0	4415.9	3761.7	8177.6	0.50
95% CL	2280.3	805.3	679.1	1000.9	.	109.2	109.2	805.3	723.0	1044.0	0.06
N	7	7	7	7	.	7	7	7	7	7	7

IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.
CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.